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FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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No. 2235.-Vol. XLVIII.

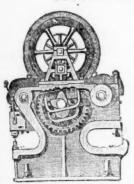
LONDON, SATURDAY, JUNE 22, 1878.

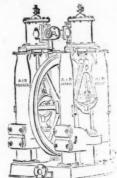
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Steam Pumps, Shipbuilders' Tools,

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OLDFIELD ROAD IRON WORKS. SALFORD, MANCHESTER.

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ENGINEERS AND GENERAL MERCHANTS, HAYLE, CORNWALL,

LONDON OFFICE,-186, GRESHAM HOUSE, E.C. MANUFACTURERS OF

FUMPING and other LAND ENGINES and MARINE STEAM ENGINES of the largest and most approved kinds in use, SUGAR MACHINERY, MILLWORK, MINING WACHINERY, AND MACHINERY IN GENERAL. SHIPBUILDERS IN WOOD AND IRON.

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IN GOOD CONDITION, AT MODERATE PRICES-viz., UMPING ENGINES: WINDING ENGINES: STAMPING ENGINES: STEAM CAPSTANS; ORE CRUSHERS: BOILERS and PITWORK of various sizes and descriptions; and all kinds of MATERIALS required for MINING PURPOSES.

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This alloy has very great tensile strength.

No. VII., for hydraulic pumps, valves, and plungers, piston rings, bushes and bearings, for steel shafts.

No. XI., special phosphor-bronze bearing metal, wearing five times as long as gun metal. £120 per ton

112

prices of castings vary according to the pattern, the quantity required, and the alloy used.

VIRE ROPES, TUBES OF ALL DESCRIPTIONS, &c.

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DARK And PALE OILS for MACHINERY, RAILWAY, and MINING Ukroses, from TWO SHILLINGS per gallon, and upwards.

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LONDON HOUSE:-McKENDRICK, BALL, AND CO., 68, QUREN VICTORIA STREET, LONDON, E.C.







PARIS, ORDER OF THE CROWN OF PRUSSIA BRONZE MEDAL, 1867.

A DIPLOMA-HIGHEST OF ALL AWARDS-given by the Geographical Congress, Paris, 1875-M. Favre, Contractor, having exhibited the McKean Drill alone as the Model Boring Machine for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24.90, 27.60, 24.80, 26.10, 28.30, 27.10, 28.40, 28.70 metres. Total advance of south heading during January was 121.30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere (71 lbs.), showing almost the entire motive force to be available for the blow against the rock-a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUN-NEL: and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

These Machines possess many advantages, which give them a value unapproached by any other system of Boring Machine.

THE MCKEAN ROCK DRILL IS ATTAINING GENERAL USE THROUGHOUT THE WORLD FOR MINING, TUN-NELLING, QUARRYING, AND SUB-MARINE BORING.

The McKEAN ROCK DRILLS are the most powerful-the most portable—the most durable—the most compact—of the best mechanical device. They contain the fewest parts-have no weak parts-act without shock upon any of the operating parts-work with a lower pressure than any other Rock Drill-may be worked at a higher pressure than any other -may be run with safety to FIFTEEN HUNDRED STROKES PER MINUTE-do not require a mechanic to work them-are the smallest, shortest, and lightest of all machines—will give the longest feed without change of tool-work with long or short stroke at pleasure of operator.

The SAME Machine may be used for sinking, drifting, or open work. Their working parts are best protected against grit and accidents. The various methods of mounting them are the most efficient.

N.B.-Correspondents should state particulars as to character of work in hand in writing us for information, on receipt of which a special definite answer, with reference to our full illustrated catalogue, will be sent.

PORTABLE BOILERS. AIR COMPRESSORS, BORING STEEL, IRON, AND FLEXIBLE TUBING.

The McKean Drill may be seen in operation daily in London.

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GREASE AND VARNISH MANUFACTURERS,

HOLT TOWN.

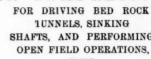
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SHAFTS, AND PERFORMING OPEN FIELD OPERATIONS, IS THE

CHEAPEST, SIMPLEST, STRONGEST, & MOST EFFECTIVE DRILL IN THE WORLD.



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MR. GEORGE GREEN, ENGINEER, ABERYSTWITH, SUPPLIES MACHINES under the above Company's Patents for DRESSING all METALLIC ORES. Dressing-floors having these Machines pos-1.—THEY ARE CHEAPER THAN ANY OTHER KIND IN FIRST OUTLAY

2.—ONLY ABOUT ONE-FOURTH OF THE SPACE USUALLY OCCUPIED BY DRESSING-FLOORS IS REQUIRED.

3.—FROM 60 TO 70 PER CENT. OF THE LABOUR IN DRESSING, AND FROM 5 TO 10 PER CENT. OF ORE OTHERWISE LOST, IS SAVED.

4.-THEY ARE THE ONLY MACHINES THAT MAKE THE ORE CLEAN FOR MARKET AT ONE OPERATION. They have been supplied to some of the principal mines in the United Kingdom and abroad—viz.,

and abroad—viz.,

The Greenside Mines, Patterdale, Cumberland; London Lead Company's Mines Darlington, Colberry, Nanthead, and Bollyhope; the Stonecroft and Greyside Mines, Hexham, Northumberland; Wanlockhead Mines, Abington, Scotland (the Duke of Buccleuch's); Bewick Partners, Haydon Bridge; the Old Darren, Esgairmwyn, and Ystumtuen Mines, in Cardiganshire; Mr. Beaumont's W.B. Mines, Darlington; also Mr. Sewell, for Argentiferous Copper Mines, Peru; the Bratsberg Copper Mines, Norway, and Mines in Italy, Germany, United States of America, and Australia, from all of whom certificates of the complete efficiency of the system can be had.

WASTE HEAPS, consisting of refuse chats and skimpings of a former washing, containing a mixture of lead, blende, and sulphur, DRESSED TO A PROFIT.

Mr. Bainbridge, C. E., of the London Company's Mines, Middleton-in-Teesdale, by Darlington, writing on the 20th March, 1876, says—"The yearly profit on our Nanthead waste heaps amounted last year to 2600, tesides the machinery being occupied for some months in dressing ore-stuff from the mines. Of course, if it had been wholly engaged in dressing wastes our returns would have been greater: but it is giving us every satisfaction, and bringing the waste heaps into profitable use, which would otherwise remain dormant."

into prohiable use, which would otherwise remain dormant.

Mr. T. B. STEWART, Manager of the Duke of Buccleuch's Mines, Wanlockhead, Abington, N.B., writing on 20th March, 1876, says—"I have much pleasure in stating that a full and superior set of your Ore Dressing Machinery has been at work at these mines for fully a month, and each day as the moving parts become smoother, and those in charge understand the working of the machinery better, it gives increasing antifaction, the ore being dressed more quickly, cheaply, and satisfactorily than by any other method."

Mr. Bainbridge, speaking of machinery supplied Colberry Mines, says—"Your machinery saves fully one-half on old wages, and vastly more on the wages we have now to pay. Over and above the saving in cost is the saving in ore, which is a . 1 much short of 10 per cont."

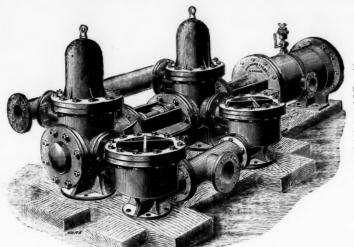
GREENSIDE MINE COMPANY, Patterdale, near Perrith, say-"The

Mr. MONTAGUE BEALE SAYS—" It will separate ore, however close e mechanical mixture, in such a way as no other machines can do."

Mr. C. Dodsworth says—"It is the very best for the purpose, and will do for any kind of metallic ores—the very thing so long needed for dress—

Drawings, specifications, and estimates will be forwarded on application t GEORGE GREEN, M.E., ABERYSTWITH SOUTH WALES,

"UNIVERSAL" STEAM PUMP,



ADAPIED FOR HEAVY DUTIES AND HIGH LIFTS.

ECKINGTON, February 4th, 1877.

Messrs. HAYWARD TYLER and Co.,
GENTLEMEN,
In reply to yonr enquiry, the 15 by 7 Long
Stroke Pump Messrs. Hayward Tyler and
Co. supplied us with is working remarkably
well; 7 feet suction, and foreing the water
180 feet perpendicular, with 40 lbs. of steam.
Before putting this engine in we had one
II.P. Pumping Engine, 50 inch cylinder,
9 feet stroke, and firing six boliers, 36 feet by
4 feet, to drive it, now we only require two
of the above boliers to do the same work
with much less abnoyance and attention.

I am, Gentlemen, yours truly,
JOHN MARPLES,
Engineer to J. and G. Wells, Eckington
Collieries.

TESTIMONIALS.

THE PATENT ANTHRACITE COKE CO.

SWANEAR, 24th January, 1877.

Mesars. HAYWARD TYLER and Co.,

DEAE SIRS,—In reply to yours of the 15th instant, I beg to give you the following particulars of what your Universal 21 inch by 6 inch is doing at one of our collieries.

The vertical height of column is 400 feet, steam pressure 40 lbs. per square inch, water pumped 3500 gailons per hour. Average work per day, 16 hours, or 56,000 gallons per day.

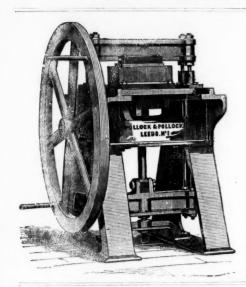
I am, yours truly.

WALTER LEWIS.

YATE COLLIERIES, near CHIPPING SOBERT,
Messrs. HAYWARD TYLER and CO., 1871,
OF THEMEN,
ID reply to yours of the 15th inst. (which
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are reply to your "Universal" Steam Funp.
The one you supplied to us has worked more
satisfactorily for the past six months, without
giving us the least trouble. It is lifting one
25 00 gallons an hour up a perpendicular height
of 480 feet—going 30 strokes per minute, with
a steam pressure of 30 lbs. per square inchbolier 340 yards from pump. I can strongly
recommend it as the most efficient pump for
high lifts ever seen. I shall be very please
to give information to any of your friends.
Yours faithfully,
EDWD. W. B. MONKS, Managing Director

SOLE MAKERS,

TYLER AND CO., Whitecross-street, LONDON. HAYWARD



POLLOCK AND POLLOCK,

LONGCLOSE WORKS, NEW TOWN, LEEDS,

POLLOCK'S PATENT BRICK PRESS,

The New "XL" Brick-Making Machines,

Improved Grinding Pans, with patent self-acting delivery. Vertical and Horizontal Engines.

COLLIERY ENGINEERS.-WINDING ENGINES OF ALL SIZES.

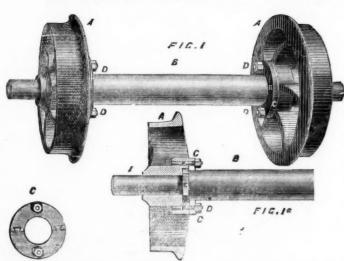
POLLOCK AND MITCHELL'S PATENT KILNS are the Cheapest and Simplest.

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JOSEPH FENTON & SONS.

CAST STEEL AND FILES,

CRUCIBLE CAST STEEL CASTINGS, Sykes Works, Eyre-st. & Bridge-st., Sheffield. London Office: 118, Cannon-st., E.C. A New Patent Method of Fitting up Wheels and Axles.

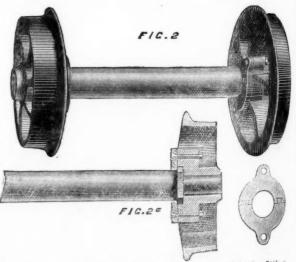


of a pair of corf wheels and axles fitted up for outside bearings, and Figs. 2 and 2a for inside bearings. A A are the wheels; B, is the axle; C C, the washers; D D, the bolts; E, the collar on axle B; and F, the recessed boss in the wheel.

wasters; b, the colors in the wheel.

The wheel is cast with a recessed boss in the inside, made to any shape, corresponding in shape and depth with a collar formed on the axle, which is forged of solid steel; the axle is secured into the recess partly by being sufficiently tightly fitted to require driving home with a hammer, and partly by the washer. Around the axle adjoining the boss is fixed the washer, made in two parts and doverailed, so as to allow of being fixed after the collar has been forged on the axle. The washer is secured to the boss by boits and nuts, both in outside and inside bearings; in the case of inside, by means of lugs cast on the boss, and the washer made of corresponding shape; the washer is made of crucible cast steel. The only tool required for fitting is an ordinary spanner for outside bearings, and a box spanner for inside bearings.

Now what are the advantages of this method? You secure a simple way of fitting—it can be done



Now what are the advantages of this method? You secure a simple way of fitting—it can be done by anyone who has seen it—the only tool required being a spanner; the wheels can be detached from or secured to the axle in a few minutes. The next advantage is the perfect solidity attained, the wheel and axle practically becoming as one piece. The durability results from the toughness of the material, and the solidity secured in the fitting. Another thing is the wheels do not need to be put in the fire to detach them, as is the case in ordinary wheels. (N.B.—Our wheels cannot be injured by being heated and plunged into cold water, which would render other steel wheels perfectly brittle as glass.) Saving in fuel and wages is evident—no skilled labour being required to relit wheels in case of a strained axle, By adopting this system c litery owners may save hundreds of pounds sterling yearly.

WIRE ROPES. JOHN AND EDWIN WRIGHT,



ESTABLISHED 1770.

MANUFACTURERS OF EVERY DESCRIPTION OF IMPROVED

Patent Round and Flat Wire Ropes,

From the very best quality of Charcoal and Patent Steel Wire. Galvanised Wire Ropes for Ships' Rigging, Galvanised Signal and Fencing Strand, Copper Rope Lightning Conductors, Colliery Ropes and Steam Plough Ropes made from the best Patent Improved Steel Wire.

PATENT ROUND AND FLAT HEMP ROPES,

Hemp, Flax, Engine Yarn, Cotton Waste, Tarpauling, Oil Sheets, Brattice
Cloth, Wagon Covers, &c., &c.
UNIVERSE WORKS, MILLWALL, POPLAR, LONDON,
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The "BURLEIGH" ROCK-BORING COMPANY (LIMITED).

100, KING STREET, MANCHESTER.

For the Sale of the "Burleigh" Rock Boring Machinery; and also for Sinking Shafts, Cutting Tunnels and Levels, and General Rock Blasting Operations by Contract.

Messrs. BOUCKOW. VAUGHAN, AND CO. (LIMITED), Middlesborough.

THE DOWLAIS IRON COMPANY (LIMITED), South Wales.

THE EBBW VALE STEEL IRON, AND COAL COMPANY (LIMITED), South Wales.

THE CRUMLIN VIADUCT WORKS COMPANY (LIMITED), South Wales.

T. J. WALLER, Esq., Railway Contractor, Gisburn, near Skipton.

TURNER AND SON, Limestone Quarries, Kiverton Park, near Sheffield.

CATALOGUES AND PRICE LISTS OF MACHINERY FORWARDED ON APPLICATION TO THE COMPANY'S OFFICE

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Original Correspondence.

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URE'S DICTIONARY OF MANUFACTURES, &C.

SIR,—The writer of the review of the fourth "Supplement" volume of the above work will find on referring to the article on "Boring," vol. I., a description of McKean's, Burleigh, Kainotomon, Ingersoll, and other drills, and a second article on the Ingersoll in Vol. III. and other drills, and a second article on the Ingersoll in Vol. III. p. 709. The Champion and Barrow drills are also described at length in Vol. IV. It was, therefore, unnecessary to repeat the description of these various machines in the article "Rock Boring Machinery." In another part of the Journal there is an allusion to "my having to some extent" abandoned the use of the valveless principle in rock and the state of the Journal than the case.

JOHN DARLINGTON. this I may state is not the case. JOHN DARLINGTON.

SOUTH STAFFORDSHIRE COAL AND IRON TRADES.

SOUTH STAFFORDSHIRE COAL AND IRON TRADES.

Sir.—I have read many times with no little astonishment the reports of writers on these two wealth-producing branches of our district trade. It will be remembered that when the panic in the Money Market succeeded in crushing the great demand we had for every article our district (and our country) could produce prophets, and prohecies were commonplace—"Hard lines for South Stafford-shire, which must go down; it cannot exist against Wales and the North as heretofore as a coal and iron centre," &c. The wise men (the timid men) saw the dark future through a smoky glass, and were, no doubt, very sure there was no future good in receive for us. Nor have the reporters of our trade as yet quite shaken off the blues and the idea of our want of power to go with the times, which is very surprising after the well-sustained hard trial, and our little deflection under heavy pressure, with a less percentage of disasters then any other district so engaged.

The Drainage charge on a portion of the South Staffordshire district has been pointed out as a death-stroke to the hopes of those lithing the strict and the lines are the lines and the lines are lithing to the lines and the lines are lithing to the lines and the lines are lithing to the lines and lithing the lines are lithing to the lines and lithing the lithing the lithing the lithing the lithing lithing the lithing the lithing lithing the lithing the lithing lithing the lithing li

The Drainage charge on a portion of the South Staffordshire district has been pointed out as a death-stroke to the hopes of those within its range. This is a mistake, for whatever sum the rate may be (which I believe cannot "xceed Is, per ton) is well covered in the shape of an indirect protective duty, in the heavy charges on the importation of coal, coke, and ironstone from other mining districts and it is well known that in spite of the cry of bad coal trade &c, we are now daily receiving from North and South Wales, North Staffordshire, Yorkshire, Derbyshire, Leicestershire, Lancashire, &c., large supplies of coal, coke, &c., and that the heavy rail and conal charges enable the colliery owners to obtain so much more for their large supplies the colliery owners to obtain so much more for their produce at the pits—so that those who cry out under the Drainage charges must rememb r that other districts can pay the heavy decharges must rememb r that other districts can pay the heavy delivery charges to South Staffordshire consumers, and contend with their water and fire, which in many cases far exceed the cost of our Drainage charges; hence it is that, as a whole, the colliery business in South Staffordshire is a good and safe investment and must ever remain so, since it is less subject to heavy losses from fire and water than any other district of like character. To this the ironnaster, who has to purchase his coal, may perhaps say—Yes, it is true; but the ironmaster has to suffer for all this. The answer is—Not so, it is well known, in the first place, that a considerable allowance is made to the iron trade in the cost of force coal in extra weight or made to the iron trade in the cost of forge coal in extra weight or price by our colliery owners; and, as the bulk of our iron is con-verted by our manufacturers in the district into chains, nails bolts, where the districts is, as a rule, saved, and is a set-off again t whatever else may be complained of, to which must be added from 20s. or more per ton as the market value of our best marked brand 208. or more per ton as the market value of our best market brain above the price of iron in other places.

That coal has increased and will at intervals increase in value is

a fact beyond doubt, unless by some very extraordinary circumstance our population and trade become reduced to a very low point, and we can no longer sing "Rule, Britannia." &c.—an event which none but those of very gloomy ideas can contemplate.

don, June 19. RESIDENT.

IRON AND STEEL-PRACTICAL CONSIDERATIONS.

SIR,—May I ask you to give insertion in the Journal to the following article, which I have clipped from a local paper—the routh Wales Daily News—as I wish to supplement the remarks of the writer by some comments which may prove of interest to your more practical readers.—Cardiff, June 17.

PUDDLERS, AND THEIR WORK.

C.

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CF.

In the industrial development of the kingdom an important part has been played by the puddler and his furnace. When iron ore has been prospected for and found, when at great cost it has been brought back, and carried to the sme'ting place, when it has been calcined or "roasted" to expel water and carbonic acid, when by fuel and flux it has new fixed and further fixed fixed fixed fixed further fixed or "roasted" to expel water and carbonic acid, when by fuel and flux it has been fused and freed from slag in the huge and cos'ly blast-furnace, it is still in the crude-tate. Impurities linger in it—carbon, sulphur, and phosphorus—rendering it brittle and incapable of being wrought into shape by the hammer, whilst the presence of phosphorus is so deleterious to use for steel-making that it has been said that "so small a quantity as the one-thousandth part of phosphorus will make all the difference between good and worthless steel." Many plans for removing these impurities have been proposed, but that which has been long generally in use has been the puddling process of Cort, which has been said to have benefited every "civilised human being of his own generation"—except the inventor and his family. That puddling process, which played so important a part in the history of the iron manufacture, is carried out in "a flat-bottomed reverberatory furnace lined with some compounds of iron and oxyen." On the bud of the first water for the compounds of iron and oxyen." On the bud of the first water for the compounds of iron and oxyen." On the bud of the first water for the compounds of iron and oxyen." part in the history of the iron manufacture, is carried out in "a flat-bottomed reverberatory furnace lined with some compounds of iron and oxygen." On the bed of this furnace the pigs of iron are placed; the free beyond plays over the bridge that separates it from the iron, and reverbrates on it also from the roof, and a flue carries the waste beat away for use or escape. When the fire has been lit, and the roof and floor of the furnace are becoming red-hot, the puddler "fettles" his furnace with hematite or other fettling, the pig iron is piled up in the furnace, the doors and damper are closed, and fresh fuel is added to the fire. During the time the iron is undergoing a fierce heat, and whilst the melting process is going on, a long iron rod is plassed in by the puddler, with which the molten metal is stirred, and fresh surfaces exposed to the influence of the draft. A long flat "rabble" is used, and the metal continues to be stirred. The iron changes under the intense heat, its surface bubbling, seething, and heaving, and boiling, and thickening into a uniform pasty mass; gas burns on the surface, which becomes dry and glanular; it "comes to nature," or defines itself into iron and cinder, and it is then "balled up"—formed by the puddler into balls in the furnace. Tongs are then introduced, which grasp the ball, bring it out from the turnace, and it is conveyed to the steam-hammer, where the balls are soon pounded and welded into a solid mass, from which the successive blows have driven out sparks of impurity. In a few words, the puddlers' work may be described as "an oxidation of the silicon, carbon, and most of the manganese of pig iron, and a washing out of the greater portion of the phosphorus and sulpbur by the fusible silicates forming the cinder." In the glow that overshadows ironworks by night, and in it when day tempers it, the paddler may be seen stripped to the waist, his body exuding perspiration, and the fierce white flame from his furnace sending troduced to stir up the changing iron.

And it bottomed reverberatory furnace lined with some compounds of iron and oxygen." On the bed of this furnace the pigs of iron are placed;

two million tons last year, and was considerably less than it was six or seven years ago, there was a very large increase in the production of steel. For since the adoption and extension of the Bessemer process, and the consequential observances of steel there has been a deosteel. For since the adoption and extension of the Bessemer process, and the consequential cheapening of steel, there has been a decrease in the demand for iron, more especially for railway purposes, with a very large increase in that for steel. The demonstated long life of the steel rails, and the lessening of that difference in price between these and iron rails, fully explain the reasons for the pre-

ference. In the era of intense demand for from goods the prices of iron rose, and as they rose the rate of pay of the puddler increased, for the price of the fluished product is its chief determinator. Thus, in the largest district the rate of wages rose from 8s. per ton to 13s 3d.; but in consequence of that change, and of the fall in the demand through the causes named, it has gradually fallen, until it now determined at 7s. 61. per ton. Even at this rate it should be possible for the puddler to earn 30s. to 35s. weekly for his arduous labours if there were abundant work. But the growing use of Bessemer steel renders the puddler's labour more and more uncertain. sabours if there were abundant work. But the growing use of basemer steel renders the puddler's labour more and more uncertain, and this to such an extent that authorities in metallurgy look forward to the day when the "puddling-furnace may, with all its manifold imperfections, become a thing of the past." The invention ward to the day when the "pudding-furnace may, with all its manifold imperfections, become a thing of the past." The invention of Mr. Bessemer enabled the capacity and production of steel to be almost indefinitely extended, and it naturally reduced the price of steel very greatly; but as it leaves the phosphorus in the iron "practically intact," it demands the use of iron nearly free from that vitiating element and thus it practically excludes the builk of British iron over. The two great districts which produce the most iron area. vitiating element and thus it practically excludes the bulk of British iron ores. The two great districts which produce the most iron are those which are supplied "with the worst iron ores that have ever been commercially worked," but we have had to turn to these illimitable deposits, for pure ores are too small for the great requirements of the world. As the Bessemer process has been extended, until the production of steel is four times what it was seven years ago, it has become increasingly desirous of using for the steel manufacture the iron made from these ores, and that problem is one which has exercised iron and steel manufacturers for years. It is now believed that that problem is solved in one or two modes. After leved that that problem is solved in one or two modes. After laborious experiments, Mr. I. Lowthian Bell, M.P., proposed to use cinder as an agent to expel phosphorus out of phosphoric pig-iron; whilst another metallurgist proposes to solve the problem with the use of lime; and one of the highest metallurgical authorities believes that the puddling-furnace will be banished, having served its turn. This is along the foreign of the tendence of the problem of the property of the problem of the property of the property of the problem. This is slowly being effected by the increased preference for steel, and the enlarged use of the Bessemer converter. Whether that change will be completed by any of the attempts at mechanical pud dling, or by the adoption of either of the processes which are now said to be passing the experimental stage, remains yet to be seen, but the fact remains, and the growing use of the more durable metal renders this increasing by the age of steel.

COLLIERY EXPLOSIONS.

SIR,-The investigation into the cause of the Haydock explosion will no doubt bring forward very prominently the important question—how can colliery explosions be prevented? Permit me to suggest that the ventilation process begins at the wrong end. It is all very well to send fresh air into the mines, but the proper mode of ventilating a mine is flost to drive out the bad air and gas. This might be done by the use of powerful fan blast fixed in various parts of the mines. If this plan was adopted in all cold mines the enemimines. If this plan was adopted in all coal mines, the ener driven out by sheer force, we should hear no more of hundreds people being sent to eternity in a moment. June 18.

THE HAYDOCK COLLIERY DISASTER.

SIR,-I observe that an appeal is being made for the sufferers by this dreadful accident. Whatever the claim on the public may be for such a subscription I hope it will only be granted in this instance on condition that steps are first taken to organize a "Miners' Permanent Relief Fund Benefit Society," on the lines of the society of the same name, established at Newcastle-on-Tyne in 1862 for the counties of Northumberland and Durham, and of others since successfully invarianted and in coversity in the Midland Counties and counties of Northumberland and Durham, and of others since successfully inaugurated and in operation in the Midland Counties and Yorkshire. This excellent society at Newcastle is now in its full usefulness, and after providing for all claims upon it for the whole year, added 11,608% to its reserve fund, which then amounted to 33 587%, invested at good interest. It numbers 50,000 miners, having added 12,000 during the last year. During the last year widows and children received 5744%; permanently disabled, 2675%; minor accident allowances, 4963%; aged miners, 206%; and life insurances (called legacies) of 100% each were bought by the miners, for which there were payments of 844%. All this is achieved by the men subscribing 3%, each per week, or 1s. a month, with some special continuous which produced 24,033%, to which 20 per cent. was added by the colliery owners, producing 3912%, and the interest on the investment of reserve funds, 835%. Surely a society like this, supported by the men and owners themselves at so little individual sacrifice, and calculated to provide for all casualties, and for relief sacrifice, and calculated to provide for all casualties, and for relief in sickness and old age, is better than having to appeal to the public for charity every time that a large accident occurs. As for small for charity every time that a large accident occurs. As for small accidents they are not sufficiently exciting to call out the sympathy of the public, and, though in the aggregate they exceed the large ones, they get no relief. I, therefore, appeal to the men and owners to help themselves out of the large sums they are and have been receiving as wages and profit in coal, to spare the public these appeals in future, and to cultivate the principle of self-help, providence, and thrift. The hon, secretary of the Newcastle society is Mr. Henry Taylor, Quayside, Newcastle-on-Tyne, who will supply copies of the rules and report of his society on application.

June 14. June 14.

CHAPEL HOUSE COLLIERY.

Sir,—Having paid several visits to this colliery and also been present at the ordinary and general meetings held on the 13th inst., it will, I am sure, be interesting to those shareholders who have never been to Skelmersdale to read an account of the undertaking from one interested as they are in the company. I would first cau-tion all not to take any notice of the reports they may hear from those whose object it is to run down the shares so as to give alarm to the shareholders, and by so doing bring a quantity on to the market at a sacrifice to bona fide investors. Having accomplished market at a sacrince to cona yide investors. Inving accomplished their end in bringing down the stock they buy in, and as soon as they have purchased sufficient for their requirements take the first opportunity that presents itself to raise the price. They then sell out, making considerable profits. This sort of thing is constantly going on. No doubt there will be something said concerning the preference shares that the directors have given notice that they intend to said the sharpholders to subscribe to and I merely wish to tend to ask the shareholders to subscribe to, and I merely wish to caution the shareholders against adverse criticism of an interested

The colliery is under very able management both as regards the The colliery is under very able management both as regards the directorate and the Liverpool manager, to whom every praise is due for his untiring zeal and energy in the interests of the company. When it is considered that we have been, and are still, passing through a period of depression such as has not been known for many years; that the company while paying dividends having divided nearly 25,000l.; sunk a 16 ft. and 15 ft. shaft at a cost of about 32,000l., and paid about 24,000l. in cash towards the purchase money, thus reducing the claim of the vendors from 80 000l to 56,000l.; and having made a profit of over 11,000l. for the past 18 months, while the business of most undertaking have resulted in months; while the business of most undertakings have resulted in heavy losses, where will be found a company in so good a position as Chapel House? The success of the company lies in its first class diggings to any profit for position, being only about 14 miles from the port of Liverpool, where a ready market can be easily found for all the coal that can be raised, and in its able manager Mr. Sousliran. The colliery plant is second to none, and if shareholders would only take the trouble to pay occasionally a visit to their property it would be far better for their interests. If shareholders, before placing any reliance on the reports they hear through those persons whose benefit it is to run down an undertaking, would make enquiries at the company's office, there would be former characteristic hands at a discount. would be fewer shares changing hands at a discount.

The mine is very free from water, consequently requiring very little pumping machinery. The issue of the 15,000*l*. of preference shares will put the company in a first class position, besides further reducing the purchase money by 10,000*l*. I hear, through a very reliable source, that the vendors will not require another instalment for a year, which will give the company every opportunity of being reported with another payment at the everytain of that time here. prepared with another payment at the expiration of that time, besides being in a position to recommence dividends on the ordinary shares, which they have been compelled to temporarily abandon on

account of the heavy drain up on the company's r-sources caused by the sinking of the new pits to the Park and Arley mines. This now having been accomplished the directors will be enabled to raise a larger quantity of coal of superior quality, thus very considerably augmenting the profits of the company. The present state of trade cannot continue much longer, and as soon as an improvement sets in Chapel House will be one of the first collieries to reap the benefit.—West Bromwich, June 17.

C. H. Jones.

THE JAVALI GOLD COMPANY.

THE JAVALI GOLD COMPANY.

Str.—The Chairman, at the last meeting of shareholders, told us that if he could get 6000% clear profit on the present year's workings he would be able to put the company on a sound financial basis. It must be cheering to the shareholders to see the steady increase in the value of the ores for the past four months, and will doubtless, encourage them to hope that their worthy Chairman's expectations will be more than realised. The averaged increased value per ton of the ore is a little over 2s, on last year, and if we take the two last months by themselves the increase is 4s, 6d, per ton. If this can be kept up the year's profits should be sufficient to pay off the arrears on the preference shares and the interest on the debentures, and another year ought to see the mine cleared from all debts. Javali shar-holders who read this will, doubtless, exclaim "Don't you wish you may get it?" I can only answer that I look forward with great confidence in the expectation of getting it. A Shareholder.

THE GOLD FIELDS OF CHILE,

SIR,—I am tempted by a letter signed "Observer," in the Journal of June 18, and subsequently by paragraphs which have appeared in the Globe and other papers, to add my mite, and also write you a letter on gold mining in South America. I cannot say anything about Brazil or the Argentine Republic, but I happen to be fairly well acquainted with Chile. I wish to draw attention to most extensive denosits of autiferous grays, such as in California and Australia. Brazil or the Argentine Republic, but I happen to be fairly well acquainted with Chile. I wish to draw attention to most extensive deposits of auriferous gravel, such as in California and Australia have been the sources of immense wealth to companies working them by the hydraulic method. The geology of Chile is gathered from the few notes given us by D'Orbigny, Durwin, Forbes, and others is, as to the western part, certainly strikingly similar to the formations in California—say, up to 60 miles from the coast. Similar as to the older formations of granites, porphyries, schists, and clayslates (all gold-bearing rocks be it observed); it is only to be expected that the later deposits, formed from these rocks should also be found. From time immemorial Chile has been a gold-producing country. The gold of the Tucas was Chilian and partly Bolivian. The Spaniards took immense quantities of gold out of the Chilian river beds, worked by the "bates," or pan, by their allotments of Indians. Chroniclers of the period are explicit, and agreed on this point. All this gold was obtained by washing; quartz mining was unknown. That attention has not been directed before to the gold fields of Chile is owing to various reasons, which it is impossible to enter into now.

I will conclude this present letter by a few facts, which I can vouch for, and which anybody in 40 days can verify for himself. From about the latitude of Coquimb, and throughout the south of Chile, and within some 50 miles of the cost, a belt of auriferous gravel, from a few feet to several hundred feet thick, extends with various interruptions. These deposits are most of them cut by the

Chile, and within some 50 miles of the cost, a belt of auriferous gravel, from a few feet to several hundred feet thick, extends with various interruptions. These deposits are most of them cut by the streams and rivers running from the mountains to the sea, and are not situate in a wilderness, but in a country full of "milk and honey," and intersected by railroads, some of which actually cut through the deposits. Some two years ago the attention of capitalists was drawn to this form of investment, and a company formed in New York is actually at work on the property acquired. They are sanguine of splendid results, which ought to be known in a month or two. From last accounts a small company had been raised in Chile itself. The Chilians, however, do not understand the hydraulic system of working, and are only half-hearted in the matter. The American Company has just secured two other properties similar to their first. There are, however, lots of others to be had for a mere song I believe. Here, then, is a chance for capitalists. I think the matter is worth attention in these troublous times, and when it is remembered that not a penny need be subtimes, and when it is remembered that not a penny need be sub-scribed before the success of the unlertaking is secured by sending out an engineer to examine and report. Everything seams to be

GOLD IN PATAGONIA.

GOLD IN PATAGONIA.

SIR,—My attention has been called to an article in the Daily Telegraph, of June 12, upon the subject of the existence of gollin Patagonia. The fact that the precious metal does abound in large deposite there has been known for many years—ever since the survey of the Straits of Magellan was made by that able navigator, the late Hon. Captain Fitzroy, in the years 1833 and 1834, at which time he laid down with great care both the coasts of that very difficult channel, with a current running like a mill-race from west to east. To accomplish this arduous task he had to warp his ship through this tortuous channel. Attached to this survey were several scientific men, one of whom had been a fellow-explorer with me in Australia, Mr. A. Earle, whose wide field of knowledge was appreciated by all who had the pleasure of knowledge him.

had the pleasure of knowing him.

There is not any doubt that on the coast of the Straits of Magellan There is not any doubt that on the coast of the Straits of Magellan vast deposits of gold abound, and more particularly on the northern shores, not only from what has been reported by the few persons who have partially examined that very inhospitable region, but also from the physical facts connected with its locality, being the extreme southern point of the great mineral zone of the western hemisphere, which is subject to extreme changes of temperature—from intense cold in the winter, which lasts for more than six months, to a more temperate climate in the summer, which dissolves the snow that has been deposited to many feet in thickness, and lays bare the surface of that desolate country in about a month after the change of temperature takes place. This annual action taking place naturally causes a continuous disintegration of the higher rocks of the country, which is carried down by the dissolving snow, and deposited in the depressions below. Along with this detritus the particles of gold are brought down, and from their specific gravity remain at rest. This continued annual deposit has caused, as a remain at rest. This continued annual deposit has caused, as a matter of course, the aluvium to be of very great depth and laminated, so that much overburden has to be removed before the precious metal is seen, and when found is difficult to be procured, as the ground which is supersatured with water filters into the cut-tings, and materially obstructs any workings. Added to this, there are frequent heavy falls of rain during the summer. Cape Horn, situated in nearly 60° south latitude, is the most southern point of land in the world, and from the fact that the wind in this part of the globe always blows from some point of west the pluvial clouds are divising to and break on this promotors, and discharge tham. are driven to and break on this promontory, and discharge themselves in torrents of rain. In the winter the cold is too intense for the natives, who retire from these waters before it sets in, and seek

a more northern climate.

There are other very great drawbacks in the way of working these diggings to any profit for the four months in the year in which such operations could by the most favourable circumstances be prosecuted. The natives of this far southern portion of the South American continent are semi-harbanes are represented. rican continent are semi-barbarous, extremely jealous of strangers, and will not allow of any intrusion on their soil if they can prevent it. They go in large companies during their shift they gain prevent it. They go in large companies during their short summer months down to the Strats for the purpose of taking fish for their winter supply, and are, therefore, on the shores where the gold is to be found; and they are a very formidable race—they are not people to be easily dealt with, and they are determined that no stranger

shall work there. About two years ago a small party fitted out a schooner with every requisite for working these diggings, and with stores equal to two years' consumption, and arrived at the Straits at the commencement years consumption, and arrived at the strains at the commenced and of the season. This party selected a spot which they considered suitable for their operations, and had commenced forming a settlement. They were one morning surrounded by a band of natives, who gave them to understand that they could not "lodge there," and without further molestation permitted them to remove their goods and implements from the shore to the schooner. This done they were given to understand that they must leave the Straits, and go to any other country they might think fit, but not to return there. Thus ended the first expedition for gold mining in the Straits of Magalland

30, Grove-lane, Camberwell, June 18.

THE NEW SPECULATION-GOLD MINING.

SIR,—In reply to "Constant/Reader," I beg to say it will be prudent for him in future to be more careful in his expressions. I consider his letter objectionable both to the company and to Captain Vivian. I know Capt. Vivian to be a thorough practical mining engineer, not one of those drawing room managers, but a hard working, persevering agent. As regards the Argentine, Capt. Vivian, I have been told for a fact, has never been to such a place since the formation of the company.

MINING INVESTOR.

THE SLATE TRADE.

SIR,-The American papers have lately proclaimed to the world that the States have supplied England during the last year with 750,000 squares of such fine quality of roofing slates that the manufacturers and dealers there have bought slate quarries here for future sand dealers there have bought state quarries nere for future service, and that American slates are successfully competing with English in many other markets. I think you would be doing a great service to this important trade if you would make known through your invaluable Journal what amount of accuracy there is in these American statements. Can it be that they have still some more quarries they wish to sell of their "practically inex-haustible supply?" Could some correspondent tell us the rate of carriage from their quarries to the best shipping port—New York. for instance—and the rate of freight per ton to London, or elsewhere in England? Is labour, carriage to shipping port, and freight higher from Wales to London than from the United States to London?-June 15.

THE CONFERENCE, COMMERCE, AND MINING.

SIR,—Lord Beaconsfield is no cosmopolite. He is Leader in the House of Lords, and an Englishman to the backbone; he lives, moves, and breathes for British interests alone. It is the fashion among certain extreme Radicals, insane fanatics, and Gladstoneites to pour every phial of contempt and vituperation upon Lord Beaconsfield and to represent him as a tawdry adventurer, attitudinising for his personal pleasure on the constitutional tight-rope of the Queen's country and dominions. Lord Beaconsfield is an older, a wiser, and a sadder man, for the advantage of all of us. And we refuse to believe that his love of his country is in any way deficient or less than Prince Bismark's love for his country, and all honour to him. Germany is more to him than all the rest of the world put together. No man better than Lord Besconsfield knows the precipics to the No man better than Lord Beaconsfield knows the precipice to the has better than Lord beaconstead knows the prespice to the brink of which the Peace-at-any-price party has dragged the country. Lord Beaconsfield knows that if, as Prime Minister now, he was to pander to the will-o'-the-wisps of a hollow popularity, and bow to the wheezy instincts of rotten traders and bankrupt commercial interests, history would load his achievements with a burden of infamy most richly deserved. There is no man in the realm whose mind is more delicately toned to measure the probable verdict of history than the Premier. He and Prince Bismark are now face to face in the Council Chamber of Europe, and these gentlemen, if true to the instincts of their intellects and principles—and who can doubt the wavering of either for a moment?—then we may hope and believe that their joint efforts will establish and confirm a peace that shall at at least during the present century.

One of the greatest perils attendant upon the rampant speculation

now prevailing on the Stock Exchange is caused by the too great and many facilities presented by banks and discount companies to advance on stocks and shares. Once, however, the revival in trade for which we look has given unmistakable evidences of established reality money will flow back into its accustomed channels, and if due caution be exercised a gradual advance will inevitably follow in its value, and thus still further loosen the springs of capital. It is to be hoped that it may not be too rashly lavished on risky undertakings or in unhealthy channels of commerce. With these observances there will be a healthy check on the over-luxuring of specific products. vances there will be a healthy check on the over-luxuriance of spe-culation, and if the rise on values should prove important in time many evils will be averted, and the tone and character of prices

many evils will be averted, and the tone and character of prices prove far more stable and permanent through such strict and necessary surveillance. If the movement now set in be wisely taken advantage of a period of prosperity may not be far off.

Men are always too ready to forget even the dearly-bought lessons of recent experience, and the first upward lift of the wave of returning confidence is only too likely to encourage over-speculation, of too rash enterprise, and of too great readiness to incur unsafe risks, especially if caution and shrewd sagacity in the selection of sound securities be not observed by investors. The very fact that the abundance of cheap money promises to provide almost boundless facilities for new ventures, and hitherto untried enterprise, is suggestive of danger, and hence additional observation, discrimination, and precautions should be adopted.

and precautions should be adopted.

The glut of markets, due to continuous over production and the shrinking of prices, has made it necessary to reduce wages and utilise all possible devices for cheapening production. Time must necessarily with cheapened prices tend greatly to absorb stocks, and thus materially relieve manufacturers and producers. As the e is every probability of a bountiful harvest this year, and a strong likelihood of all apprehensions of a grievous war being definitely removed, we are entitled to count with something like confidence upon a real revival of trade and enterprise before the end of the year. Recent experiences have made capital timid. It has been frightened back from the ordinary avenues in which it fructified in remunerative undertakings, and has largely taken refuge in the assured safety of Consols and other exceptional securities. But with revived trade and manufacture commerce will expand, money advance in value and exceptions enterprise augment, especially advance in value, and speculative enterprise augment, especially industrial pursuits and undertakings, money will become once more circulated, profits will engender confidence, and speculative adventure prosper, while probably no description of property will prove so attractive and remunerative as mining adventure. There is a fascination in mining peculiar to the spirit of Englishmen, and mining just possesses those risks which absorb the attention and mining just possesses those risks which absorb the attention and encourage the greed of capitalists. There are no other channels open for the employment of capital which embody so many substantial and brilliant prizes as that of mining. Devon Great Consols yielded dividends of 1160%, on each 1% share; Friendship, 3000% on each 50% share; South Caradon, 742%, 10s. on each 1%, 5s. share; Tresavean, 4500% on each 32%, 10s. share; Levant, 2000% at least on each 2% 10s. share, while hundreds of other brilliant prizes may be referred to. The Buller shares, 5%, paid, sold at 1000%, each; Basset, 800% on 2%, 10s.; Lisburne, 500% on 18%, 15s. paid, and has declared dividends of 58% 10s. a share, and is a profitable mine still. Theroft, Dolof 5862 10s. a share, and is a profitable mine still. Theroft, Dol-coath. West Szton, Minera, Great Laxey. Van, and many others still existing are equally important properties; among the more recent "gems" may be classed South Condurrow, Peevor, Eliza Consols, Mellanear, Wheal Newton, Grogwinion, and Leadhills; while Grenville, Agar, Temple, Pateley Bridge products exceed costs, returning 30 tons of metallic lead monthly; Hultafall, Blaen Caelan, D'Gresby Mountain, and Tyn-y-Fron requiring only time and practical development in order to render them great, substantial, and remunera properties. he Whitson Mine, situate on the Devonshire banks of the Tamar,

a silver-lead mine of acknowledged worth and prospective expansion. has been purchased by us and divided into 64 shares of 644 each; 2000/. to 3000/. is considered ample to open out the property and discover minerals in bulk, of rich quality, and of unusual promise for early and large dividends. In course of time the shares will be sub-divided, and the company registered upon the Limited Acts. At present the operations will be conducted upon the Cost-book System; hence the workings are carried out under the immediate supervision and control of the stareholders themselves. A few shares are for sale at par; but none need apply who are not willing to wait a year for results, for certain preparatory work has to be

Exchange, 66, Coleman-street, London, June 18.

LEAD MINING IN DERBYSHIRE.

SIR.—Would your able correspondent, whose article on Lead Mining in Derbyshire appears in last week's Supplement, state whether during his inspection of the mines at Wirksworth he examined any mines which are worked in the decomposed mountain limestone in Brassington and Cassington? If a tithe of what the old miners in Brassington tell me is true the districts I have mentioned are the finest for lead mining in the whole country of Derby tioned are the finest for lead mining in the whole county of Derby-shire. Mining in the solid limestone, or in the millstone grit and Yoredale shales, is very costly, especially in the limestone formation when the igneous rocks are met with; but in the decomposed lime-stone where the moles and the plough turn up the lead, and the large and prolific veins are found at about an average depth of 20 fms. and in which I was assured by highly respectable and experienced miners blocks of solid lead weighing 1 ton each are met with, there miners blocks of solid lead weighing 1 ton each are met with, there ought to be a rich future for capitalists. Owing to the porosity of the strata all the rainfall disappears, the mines are perfectly dry, and no engine power for pumping is required. I was offered tenders for sinking a shaft in this formation 20 fms deep, and have the timber put in for 2l. per fathom, and the men would make good wages. And yet most of the mining in the district I have named is so primitive as to carry one back 500 years. I visited one place wherea few men were nibbling for lead, and they found some splendid ore, but their whole plant appeared to be not worth more than 10l. As to developing the mines, that seemed quite out of the question. Capital and enterprise would soon change the aspect of these districts, which appears to me to present advantages rarely to be met with in any county. Let us hope that the Congress now sitting in with in any county. Let us hope that the Congress now sitting in Berlin will eventuate in a peaceful solution of the Eastern difficulty; public confidence will be restored, and sound, healthy, and profitable mining adventures in Derbyshire come to the front

LLANRWST AND BETTWS-Y-COED MINING DISTRICT.

Sir,-Having in company with Captain Roberts inspected the D'Eresby Mountain and Aberllyn Mines, I can corroborate that gentleman in saying that I believe the Aberllyn lode is the D'Eresby Mountain Gorse lode. I had a hasty inspection also of the surface of most of the mines and setts of the district; and if the mines prove as beautiful for mineral underground as the surface is for content, it will be seen released. cenery, it will be very pleasant to be a shareholder, and to attend tings of the shareholders, which should be upon the mines.

ham House, June 20.

T. P. THOMAS. Gresham House, June 20.

BLAEN CAELAN UNITED LEAD MINES.

SIR,-I observe in last week's Journal your Correspondent from Sir.—I observe in last week's Journal your Correspondent from North Wales, Salop, and Cardigan classes Blaen Caelan amongst the "slightly paying and prospective mines" which he says will have to face the question whether lead mines can be made to "pay on a production of 1 ton of ore per fathom." While agreeing with him that it would be wise for those interested in the management of mines to face this by no means impossible problem, I can assure him that Blaen Caelan does not come under this category, as I am quite sure he will be convinced if, when next he is in this neighbourhood, he will do me the honour of accompanying me over these mines, when he will see the lode we are working on produces nearer 5 tons than 1 ton of lead per fathom. We have recently completed the sinking of a winze from the 20 to the 30 fm. level, and are now driving on the course of the lode so as to meet the engine-which is being sunk to the same level about 20 fms. west. we began sinking the winze the lode was worth about 25%, per fm., but as we sank it gradually increased in value until it is honestly worth an average of 50% per fathom for the whole 10 fms, between these two levels, as your correspondent can see for himself if he will accept my challenge. We are purposely making the level we are here driving on the course of the lode very narrow, as until we reach the engine-shaft we have to bring all the stuff up the winze, and, consequently, we are only carrying about one-ninth of the lode with us, but even for this width the lode is worth fully 30/. per fathom, and we know from what we have seen in the winze and a cross-cut driven 30 ft. into the lode that we are leaving a considerable width of the ore-bearing portion of the lode by the side of this level, all of which will of course be stripped down when we reach the engine-shaft. As this course of ore is the same which has yielded upwards of 10,000/. worth of lead above the 10 fm. level, below which it is as of 10,000% worth of lead above the 10 fm. level, below which it is as yet intact, and is worth in the 20 an average of 2 tons per fathom for 40 fms. in length (as was confirmed by Captain John Hughes. of Talybont, in his report of November last), while it has evidently reached about double that value in the 30 fm. level, and shows every reached about double that value in the 30 Im. level, and shows every indication of still further improvement, I think the success of Blaen Caelan is assured, but we shall none the less practise such rigid economy as would, I believe, enable us (situated as we are) to pay profits even upon 1 ton of lead per fathom.

JONATHAN PELL.

Aberystwith, June 19,

PANT-Y-MWYN MINE.

SIR,-I have no doubt but that the request of "Shareholder," as stated in last week's Journal, will be complied with, respecting the directors' report, &c., for the next annual meeting, that the same will be sent out previous to the meeting. Shareholders, no doubt, will be pleased to see the agent's report in your valuable Journal of last week, and I can tell him we had on Saturday last 60 tons of lead in the bin ready for sale, and the mine opening out one of the richest in the Principality; it requires a short time only to verify the statements made by different parties in the Journal, knowing the mine and the district, that a large and profitable mine will be opened up. Of course the price of lead ore being so low will make a considerable difference in this as well as all other lead mines, but we shall make good profits at present low price of lead ore. Had we shall make good profits at present low price of lead ore. Had lead kept up to 14t, and 15t. per ton the profits in a short time would be considerable; however, we must work on and hope for better times, which we expect when the Eastern question is settled.

Learnington, June 17. JAMES YELLAND, One of the Directors.

"A AND B CONSOLS," OR WHEAL GRENVILLE AND SOUTH CONDURROW.

SIR.-Having held shares in South Condurrow for years past, and remembering that in your valuable Journal of August 14, 1875, and again in October 6, 1877, "Argus" strongly advised that these mines should be united, giving as a reason that South Condurrow had the means of returning double the quantity of tin if the stuff could be means of returning double the quantity of tin if the stuff could be got, and that Wheal Grenville could more than double the returns if it had the power and means of returning it; or, in other words, Wheal Grenville had the tin, but lacked the machinery, whilst South Condurrow had the machinery, but lacked the ore. I have carefully watched the reports of the meetings of both mines that have appeared in the Mining Journal from time to time with the view to ascertain if there were fair and reasonable grounds for the scheme to ascertain if there were fair and reasonable grounds for the scheme that had been so ardently proposed. I confes that after waiting for three years the last report of the meeting of the Wheal Grenville shareholders does not in my opinion bear out the predictions of "Argus" that one must decrease and the other increase, for instead of South Condurrow decreasing I find the returns up to the last meeting were about 60 tons of tin per month, and leaving a clear profit of 25351. on the 16 weeks working.

The Chairman last week at the Wheal Grenville meeting congratulated the shareholders on the state of the mine, and said the re-

tulated the shareholders on the state of the mine, and said the re turns had been fully up to the estimate-50 tons in three months. turns had been fully up to the estimate—ou tons in three months. I believe the new pumping-engine and stamping machinery were set to work last year, and after six months working with two pumping-engines and other machinery the returns of 50 tons for three months do not seem very high. It appears that by an ingenious arrangement of pumps and pipes the difficulty has now been

carried out, upon achieving which it is pronounced by authorities and experts there will be realised a mine second to none in the kingdom.

R. TREDINNICK,

Consulting Mining Engineer.

Consulting Mining Engineer.

Consulting Mining Engineer. would drain the mine to the bottom, and obviate all difficulties. I notice that at some future period it is hoped the ne plus ultra will be reached in returning 30 tons per month—just one-half the quantity that is being returned by South Condurrow.

It is now apparent that to adopt "Argus's" scheme would have been most disastrous for South Condurrow shareholders. I for one certainly prefer South Condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the condurrow has it is to "A and B of the conduction o

been most disastrous for South Condurrow as it is to "A and B Consols," for a mine that can give dividends is preferable to a property due seems to consist chiefly in nice calculations, steam-engines, and great expectations .- Plymouth, June 19.

REMINISCENCES-No. VIII.

SIR,—In my last I omitted an incident or two in connection with Helston. When I was a little boy, about 65 years ago, on going with my father one morning to that town, we found the people in great consternation. On enquiry after the cause we found that a respectable solicitor there had poisoned himself. The family is now nearly extinct, so I may vanture to give the name of the suicide without able solicitor there had poisoned influence extinct, so I may venture to give the name of the suicide without offence—Mr. Thomas Grylls. He held a high position in the torn being the land agant of the Duke of Leeds, Sir John St. Aubyn, Mr. being the land agant of the Duke of Leeds, Sir John St. Aubyn, Mr. John Rogers, Sir Vyell Vyvyan, and some other landowners. His political influence was powerful. The reason for the rash act I have never ascertained, and will not quote conjectures. After it was discovered that he had taken poison his surgeon was sent for, who found him suffering great agonies, and springing up like one in a flame. "Daniell," said the dying man, "I am no more." He quickly gave up the ghost. He was the father of the late Mr. H. M. Grylls, who died in the year 1834, and of Mr. Glynn Grylls, who died about eight years ago. At that date (1810) Helston was considered the most genteel town in Cornwall, because of the number of independent residents there, all of whom have departed the life, and left few such successors. I suppose we must regard the Messrs. Hill and Mr. Henry Rogers as the present elite of that ancien life, and left few such successors. I suppose we must regard the Messrs. Hill and Mr. Henry Rogers as the present elite of that ancient borough. It has very little increased in the number of buildings in 60 or 70 years. Trevarno, the seat of Mr. W. Bickford Smith, is situate two miles northward. Penrose, the seat of Mr. J. J. Rogers, is about 2½ miles westward. Trelowarren, the seat of Sir R. R. Yyyyan, Bart, is about five miles southward; and Bochym, Mr. R. Daywe's is about four or five miles in the same direction from Hel-Davey's, is about four or five miles in the same direction from Helston. When the mines in Wendron and Breage were in full operation Helston market, on Saturdays, was very fully attended, and the shopkeepers were very prosperous; but, of course, they must now feel the pressure of the times in common with people of other places in the mining districts.

Mr. John Silvayers, the late tollow for the Duke of Local lines.

places in the mining districts.

Mr. John Silvester, the late toller for the Duke of Leeds, lived and died at Helston. He commenced life, like many other successful miners, as a "buddle boy." Being a sbrewd man, in after life he made some money, and kept the inn called the "Star," in Helston, which he purchased and, some years afterwards, rebuilt. He became connected with Wheal Vor about 50 years ago, and also with Great Work and other mines. He had two sons and one daughter. The eldest son lived "fast," and died early; the other also died, I beliere, in youth. Mr. James Clarke married the daughter, and came him possession of the property that remaiged. He kept the hold in in youth. Mr. James Clarke married the daughter, and came into possession of the property that remained. He kept the hold in Penzance, and afterwards the Star, his own house, in Helston. He had three sons, two of whom, I believe, were killed by falls from horses, and the third became a bankrupt, so all the estate is wasted, and the family, I believe, extinct. I forgot to say that Clark, the father, was also killed by a fall from a horse between Penzance and Helston; the fall broke his neck. This occurred about 12 years ago, Bonython is a good residence in Cury, late the property of Mr. Joseph Lyle, who devised it to his brother John, who mortgaged it too deeply for his family ever (probably) to have it again. Captain John Lyle died a few years ago, but his daughter is, I believe, living there. Mr. Joseph Lyle left about 45,000% worth of property, which is said to be all exhausted. He was successful in North Basset,

is said to be all exhausted. He was successful in North Basset, South Tolgus, and Carn Brea Mines.

Mr. John Borlase, la'e of Helston, solicitor, and, I believe, partner

Mr. John Borlase, la'e of Helston, solicitor, and, I believe, partner with Mr. Thomas Grylls aforesaid, acquired by his legal practics a good estate, and retired from his profession several years before his death. Late in life his understanding became impaired, and he was haunted with a fear of want, which has afflicted many a rich ungodly man. His agent called on him one day, when he said—"Mr. Trelost, I will thank you to get a room for me in the Union House, as comfortable as you can." "Why," said Treloar. "Because," said Borlase. "I shall have to go there; I have not enough property to last." "I can assure you." said Treloar. "an income of 2000/s years blong "I can assure you," said Treloar, "an income of 2000! a yearsolong as you live. Is not that enough for you?" 'Yes, if I could tell where it was coming from." "I will assure you of that income," said Treloar. But the old gentleman was incredulous.

said Treloar. But the old gentleman was incredulous. This circumstance reminds me of the late Mr. Morrison, of Forstreet, London, the wholesale draper, &c.—a man said to be worth (as people say) four millions sterling. When he became old, and had relinquished active life, he was afflicted with an apprehension of the approach of want. He wished to do something to get a living, so his friends put him to work in his garden at 15s. per week, which was regularly paid him every Saturday evening till his death. He had, it would seem, too much of a good thing (money); hought to have used his talent, and not have "heaped up" riches. His blesings were cursed. This should be a warning to lovers of money. There is more hope for a spendthrift than for a miser, although both are fools.

are fools.

In the city of Truro there lately lived two pugilists—a man and his wife. They used to fight like tigers, but last week the man, who was a drunkard, and probably drunk at the time, fell out of his barge in Truro river, and was drowned. So his pugilistic exercises are over.

When I was a little boy I had a narrow escape from the loss of the sight of one eye. On returning from school a school-lellow slung a stone, which hit my eyebrow, cutting it severely, and causing temporary blindness, but leaving no lasting injury.

Godolphin House, in Breage, was the occasional residence of the Earl of Godolphin till about 90 years ago, when 20 rooms were demolished, and it has ever since been used as a farmhouse. I remember seeing some of the large wooden images, life size, lying about parts of the farm. Godolphin Mine waste was anciently a

about parts of the farm. Godolphin Mine waste was anciently a plantation. There was an oak grove near the house, which contained some of the largest trees in Cornwall. It is said that King Charles stopped a night or two at Godolphin during the civil war. It is now the property of the Duke of Leeds, who never visits it. He has a large estate in the neighbourhood.

DEVON GREAT CONSOLS.

SIR,—If it can be proved—as has been conjectured by some persons—that the agents of Devon Great Consols have advised the men to resist the will of the board of directors by insisting on the forweeks month they merit the severest reprehension, and even dismissal. But I doubt if such advice can be proved to have been given by them. I believe that the four-weeks month was original. given by them. I believe that the four-weeks month was originated by agents in other mines, because the change gave them an extra month's salary but the absolute the change gave them as nated by agents in other mines, because the change gave them an extra month's salary, but the change was not attended with good to anyone except monthly men until their wages were reduced. Now that Mr. P. Watson has offered to pay the men 24 times a year instead of 13 times as before, what earthly reason can they have to abstain from work? I can see none except a stubborn will for the will be better off under this arrangement that they were formerly, when they had to wait four weeks for a pay. If Mr. Watson's proposition be accepted these will be called four times in the year when will be better off under this arrangement that they will be when they had to wait four weeks for a pay. If Mr. Watson's proposition be accepted there will be only four times in the year when the men will have to wait so long as three weeks, so that the men will be paid much the same as they were in Mesrs. Williams and Taylor's mines in the "good old times," If I were a director I would on no account yield to the men; I would rather stop the mine altogether, and I am not sure that that measure is not the best to be taken it being somewhat questionable whether it can be to be taken, it being somewhat questionable whether it can be worked again with advantage to the shareholders. Some writer in the Journal, or some other periodical, has intimated that the lord-the Duke of Bedford—is likely to interfere. I think that such interference not for persona do so, should must ei ing tho

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ference would be highly improper, and, therefore, improbable. I do not for a moment suppose that his Grace would seek to place the labourers in the position of masters, inverting the order of things in society. The employers should be masters as of old. Of course his Grace has plenty of money, and could work the mine himself if he had possession of it, but he would have first to purchase all the personal effects in and on the mines at a valuation before he could do so, which is one of the most unlikely occurrences. His Grace knows better than to work a mine which is so nearly exhausted, and to interfere coercively between master and man would be out of place in him. Those persons who support the men in their resistance to the resolution of the directors are "no better than they should be," and those persons who contribute funds to support men in their wilful idleness deserve a castigation. The foolhardy stubbornness of the men is making their position worse daily, for they must either be getting into debt (most of them) or be living on the charity of silly people, who support them in their indolence, or be short of food. They are injuring their wives and children, excepting those of the men who found employment upon their desertion of the mine. "Laziness will clothe a man with rags."

R. Symons.

THE ANNIHILATED FIVE-WEEKS MONTH.

After a hard struggle by the men of Devon Great Consols this SIR,—After a hard struggle by the men of Devon Great Consols this old and greatly dreaded system has met with its final doom in the West. In times of unparalleled depression in the history of mining the men stood bravely out, and notwithstanding all the threats, warnings, and beguilements that could be brought to bear they never faltered for a single moment. Their conduct throughout has been farm, manly, and straightforward, and they have won a victory for the whole of the community of the two western counties that will never be forgotten. Subscriptions are coming in from all directions from due of the light ham in this their hour of need. never be forgotten. Subscriptions are counting in the country far and near to help them in this their hour of need.

A CORNISHMAN. June 19.

PAYMENT OF MINERS-THE FIVE-WEEKS MONTH.

SIR,-Having noticed numerous letters in the Journal concerning SIR,—Having noticed numerous letters in the Journal concerning the four and five weeks months for payments to the miners in Cornwall and Devon, will you please allow me space for a few remarks on the subject. In regard to this matter, which it seems is of great importance nowaday to the companies in the face of such very lower for the price for their ways allow indued as to cause most mirror to make mportance nowaday to the companies in the face of each very low price for their ores, so low, indeed, as to cause most mines to make heavy calls upon stockholders in order to float along; and at the same time it is just as bad, or worse, upon the poor miner, as his wages have been already little enough to enable him to keep strength wages have been already little enough to enable him to keep strength to follow his daily labour. To this end I see but one remedy in the matter, and this remedy I consider would be beneficial to the employer and employed. Somehow mining companies run away with the idea that one miner is just as good for their interest as another, and if they see one get more wages than another they consider it is either for want of judgment or extravagance on the part of the agent. The agent, of course, knows that he has a good position, and wishes to keep it, and to avoid any complaints concerring miners' wages they will either hire miners by monthly pay, or give them short contracts, telling the miners that they are allowed so much per month, which they can have, but cannot have any more; as much as to say, "You can work hard or easy, your wages will be all the same." This wretched system, I know, was kept up in Cornall the same." This wretched system, I know, was kept up in Cornwall years gone by, and I am told it is just the same now, which enables the agents to bring out the miners' pay to a penny of the amount they wish; but what amount of work is accomplished? Why, it stands to reason that it requires three miners to do what two should easily perform. Now here comes the remedy.

For instance, supposing mining companies allow their miners 3t. a month by hard labour: to accomplish this fully the agents must give a price in sight always, and so long a contract as the nature of give a price in sight always, and so long a contract as the nature of each place will allow, and by no means allow the price of one contract to interfere with another—i.e., if the contract just ended had by a change in the rock, or otherwise, gone in favour or against the men, it should not influence the agent in fixing his price for the next contract, but let him keep in mind he is letting to those men to get 33. a month. And when the month expires, should the contract not be finished, but the men are working on in good faith and according to agreement, let the agent credit those men with such amount as in accordance with the amount they had earned for the next pay-day. Under such arrangements common sense would teach next pay-day. Under such arrangements common sense would teach us that those miners would not trouble their employers much as to whether every third month was five weeks or four, but the system would induce men to work hard and be faithful in every respect, allowing the companies to have their mines worked much cheaper, and at the same time the miners would get more money.

uke Superior, May 27. A CORNISHMAN. [For remainder of Original Correspondence, see to-day's Journal.]

AUTOMATIC HOUR-GLASS SIGNAL.—The ingenious little signal egg-boiler recently invented by J. A. DE MACEDO, of Headingly, near Leeds, appears to be capable of many other applications where certain work has to be performed at the end of a given time. The sand-glass is charged with sand in the usual way, and is fixed to a frame, and hung in such a way that when the full bulp is turned upward it rests against a stop, and is thus held at such an angle that the centre of gravity of the glass is above its centre of oscillation; but when sufficient sand has run through, the frame carrying the sandwhen sufficient sand has run through, the frame carrying the sand-glass overbalances, and becomes inverted. By this movement a hammer attached to the frame is made to strike a bell, and the glass remaining in the altered position the sand runs back into the first bulb ready for use again. There would appear to be many processes, especially in connection with chemical manipulation, in which so ready a means automatically acting upon suitable apparatus at a fixed time would be of great value.

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COKE FROM ANTHRACITE DUST.—At the suggestion of a member CORE FROM ANTHRACITE DUST.—At the suggestion of a memoer of the Geological Survey of Pennsylvania, the writer made a number of experiments in using anthracite coal as a basis for coke. The additions of bitumen. gas tar (gasworks waste) or bituminous coal were all used in the mixtures with a view to supplying the necessary cementing qualities lacking in anthracite. An ordinary blacksmith's fire supplied the heat required, black-lead crucibles of about 1 lb. capacity being used to receive the mixtures. The result arrived at capacity being used to receive the mixtures. The result arrived at proved several points:—1. That any mixture varying from 50 per cent. anthracite dust and 50 per cent. bituminous dust to 75 per cent. cent. anthracite dust and 50 per cent. bituminous dust to 75 per cent. anthracite dust, 10 per cent. gas tar or bitumen—for they are interchangable—and 15 per cent. bituminous dust, will make a beautiful steely, lustrous, heavy coke.—2. That a heat higher than can be obtained in a colking oven is an absolute necessity to produce a good anthracite coke.—3. That in order to obtain a commercial success in producing anthracite coke, the utilization of the gas contained in the bitumen and bituminous coal must be a part of the process, at the present price of anthracite coal. It may be interesting to state that through the kindness of the Harrisburg Gas Company the writer the present price of anthracite coal. It may be interesting to state that through the kindness of the Harrisburg Gas Company the writer was enabled to make an experiment on a large scale; 260 lbs. or 52 per cent. anthracite dust, 150 lbs. or 30 per cent. bituminous coal dust, and 90 lbs. or 18 per cent. gas tar, were taken, making a charge of 500 lbs, which was placed, after thorough mixture, in three ordinary cast-iron retorts. For four hours these retorts were subjected to the bright-red heat employed in making illuminating gas in iron retorts. The coke resulting was perfect, though not hard enough for blast-furnace use. It was tried in a blacksmith's fire and produced a very high heat, quite equal to that of the best soft coal fire, with the advantage of making a fire free from smoke. Were it possible to make anthracite coke on a large scale equal to what can be produced in a small way, there is no doubt that the vast hills of anthracite dust now cumbering the earth near the breakers would be utilised. The following mixture will make a solid, lustrous coke, provided the state of the produced and the anufractic dust now cumbering the earth near the breakers would be utilised. The following mixture will make a solid, lustrous coke, provided the anthractic coal dust is finely pulverised and the bluminous coal and gas tar are thoroughly mixed before charging, and are subjected to a white heat for about 1½ hour; 65 per cent. anthractic dust, 25 per cent, bluminous for coal dust, 10 per cent, gas tar. The attendant loss of weight to a similar treatment as the above mixture, and the result was an inferior coke, with the subject of the subject

Meetings of Bublic Companies.

RICHMOND CONSOLIDATED MINING COMPANY.

RICHMOND CUNSULIDATED MINING COMPARY.

The ordinary general meeting of shareholders was held at the Cannon-street Hotel, on Tuesday,
Mr. George Hopkins, C.E., the chairman, presiding.

Mr. Hubret Akers (secretary pro tem.) read the notice calling the meeting. The minutes of the last half-yearly meeting were read and confirmed. The reports and accounts were taken as read.

The Chairman said: Gentlemen, I will proceed to make a few remarks upon the report and accounts. As stated in the report, you will remember that the accounts now laid before you cover a period of ten months only, although they are our yearly accounts, and during of ten months only, although they are our yearly accounts, and during those ten months the works—that is to say, the smelting works and the refinery—have been shut down four months, when dead work only was being carried on at the mine, so the actual profitable workonly was being carried on at the mine, so the actual profitable working during that period has been only six months, and that is even a short six months, for you will observe that two furnaces only were started on Sept. 5, and the third in November. By reference to the capital account you will see we have received during the ten months a small outstanding sum of 12l., which has remained a long time unpaid on our capital, thus making our capital 270,000l. fully paid up. We have expended on capital account 932l. 13s., the details of which you will find in the abstract under the heading letter A. As has been our custom from the commencement of the com-

As has been our custom from the commencement of the com-As as seen our custom from the commencement of the company, that amount has been taken out of revenue, so that the capital has been kept down always just to the even 270,000%. At the time these accounts were prepared, which is up to February 28, we appeared to owe, and we did owe, 37,800% on account of debentures, but in March last we paid off 12,800% of that amount then falling due, so that the debenture debt now stands at 25,000/, and your case, so that the depending dept now stands at 20,000% and your capital at 270,000%. I shall have something to say a little later on about the capital, but for the moment I will pass on to the mining profit account. If you will kindly follow me, and take the debtur side of the account, you will see that the cost of mining and hauling to the furnace, of making the explorations, &c., is, as per Abstract B, 49 936%, and that amount includes 13,746% 10s. 3d. expended in bloom of deal work and in white explorations. stract D, 49 500%, and that amount incuries 10,440%. 108. 5d. expended in labour on dead work, and in making explorations, drites, &c., the consequence of which is that the total expense of mining and hauling is this year \$1.9½ per ron, whilst our usual expense for those two Lems is \$9½—that is, \$8 for mining proper, and \$%/ for haulage—so that in consequence of the 13,000% odd being expended on dear work these expenses have increased, as compared with previous years, \$1 per ton. The smulting expenses amount to 73,00%. 3s. 4d.

A SHAREHOLDER: Allow me to suggest that it will save time to leave out the fractions.

A SHAREHOLDER: Allow me to suggest that it will save time to leave out the fractions.

The CHAIRMAN; Well, the smelting expenses are 72,908L, which are detailed under the head C. Now, the total cost of smelting this year has been a fraction over \$14 per ton. That is a great improvement over former years. It used to be about \$20 per ton when we first started, and has been gradually reduced down to the pregent price. The great improvement has been in consequence of alterations made in the furnaces, and in the selection of proper and suitable fluxes for mixing with the ore. It has been found that the ores were deficient in silica, and, as a result, in the process of smelting, the silica contained in the lining of the furnace was eaten out very rapidly; the consequence was, as you will remember, these furnaces had to be shut down every two or three months to be re-lined, which was a very expensive process, and involved considerable loss of time. We have also an improvement in the consumption of coarcoal: whereas formerly we used to consume 40 bushels of charcoal to every ton of ore, we are now only consuming 30 bushels.

was eaten out very rapidly; the consequence was, as you will remember, these Irenaces had to be shut down every two or three months to be re-lined, which was very expensive process, and involved considerable loss of time. We have also an sume 40 bushels of charcoal to every ton of ore, we are now only consuming 30 bushels.

Mr. BRIDGWATER: Standard bushels?

The OHAIRMAY: I am merely making a comparison between 40 bushels consumed formerly and 30 bushels consumed formerly and 30 bushels consumed now, which is a reduction of 25 per some standard of the consumed formerly and 30 bushels consumed now, which is a reduction of 25 per ton, and as our cost, including everything, has been \$14 we have made on the operation a profit of \$0 per ton, amounting to \$2176. The fluxes amount to 12,97%. These I need not allude to, they are outside ores purchased principally to assist in the reduction of our own ores, and contain more slick than ours. The general expenses, 9924, which you will find under director, Mr. Probert, for his services during the year. And while I am on this question I will just remind you that as regards that amount money in Eureka has a very of freent value to what it has in Londou. A soverign there will not go much further than 7s. or 8s. here. I believe the actual relative value is something like this -\$2 will go as far there as shout is. 6d. will in this country. You will that the sum of the sum o ins at the same rate—that is 1 per cent, per month. And I would wish to make a remark here as I go along—that I think it a little fallacious to say that we pay 14 per cent, per annum, because we really have not paid that amount (14 per cent, annum) since we raised the debentures. You will remember the object of raising the debentures, which you did at 10 per cent, was to get rid of this very onerons charge of 14 per cent. Although perhaps at times since the debentures were raised there have been times when we have had to pay a small amount of interest (to Mr. Meyer, still, speaking generally, from the time that we raised the debentures we really have reduced our interest upon advances from 14 to 10 per cent. After providing for all London expenses, which you will find under abstract G, and which con 'ists of directors' fees for one year, 150%, and here I may say that for the first time since the formation of the company that in the last six months of this account, according to the Articles of Association and the resolutions which you have kindly passed since increasing the amount of the fees, the directors have received 100%, in the latter six months of the year, and 50%, in the previous. So long as we pay 20 per cent. per annum, and have a balance in hand of 10 °0%, the directors are entitled to divide at the rate of 20000. Per annum. The abstract shows the principal items of expenditure, and the London office expenses amount altogether to 349%. We have provided for the interest on debentures. Of course, what we have received from Mr. Meyer will help to go towards that. And the general result of that account is that, after providing for London expenses, the 111,33%, 5s, 7d, is reduced to 105,310%, 4s, 10d. You will observe we had a large balance at the commencement of the account standing to the credit of revenue of 33,406. 19s. 6d. You will remember that at our last annual meeting we were standing face to face with lawanits and heavy law expenses, and you were kind enough a the time to let that amount stand o

fending the mise in the suit of the Eureka Mining Company. It would have that the control of that amount to the capital of the control of the

share of M., which will be worth more than double that upon the market at the present price. The only possible objection I can see is that you will increase your capital, but why should we not increase our capital? It is simply a question whether you will pay a emaller dividend on a larger amount, or a larger dividend on a smaller amount.

Mr. BATLISS: May I ask who is the shareholder who made the suggestion? The CHAIRMAN: Mr. McGwen. You will have to consider in some way how that amount is to be desith with, and of course it rests with you to decide whichever you think best. As regards our present position with o ir bullion agent, who is also our banker, I may say that in order to be prepared at this meeting we cabled out to him on Sturday to know the actual amount of cash which it hands at the present moment to our credit, and also the bullion in his hands and as the present moment to our credit, and also the bullion in his hands and the present moment to our credit, and also the bullion in his hands in the present moment to our credit, and also the bullion in his hands at the present moment to our credit, and also the bullion in his hands and the present as the bullion had to the him to be the his hands we are getting I i per cent. In 18,000%. We also cable to Mr. Probert to know what amount of lead there was accumulated at the works because I need not tell you that this depreciation in the price of lead, and the difficulty of getting it to market, lead unsue of considerable uneasiness to the directors. It has made an enormous difference in our profits. The answer from Mr. Probert is that there is no market lead unsuipped. That is to say, it has all gone forward to market. I am very glad of it, because I was affaid we might be accumulating a large quantity of lead there as the markets are so low. I think the right way to deal with it is to get rid of it, no matter what the price may be . (Hear, hear.) Now a few words as to the mine itself, which continues to uphold its character and develope from day to day

upon a paragraph in the report with respect to this Eureka standard assay, for find a good deal of confusion, to say the least, exists in the minds of many of the shareholders upon that point. This Eureka standard assay assumes a very much higher price than what the precious metals and the lead will produce in the market. Gold is estimated at 44, 2s, 9d, per ox., and I suppose it is generally worth about the same price always, but silver, which is taken at 5s, 2d, we allow standard assay as the same price always, but silver, which is taken at 5s, 2d, we allow 4s, 6d., and as to lead, as I said before, which we used to get 24f. Per ton for at New York, we now get only 14f. for. The result is that all our products, whether ore or builton, are assayed upon the assumed standard. So take for instance the weekly cable returns, they are estimated upon that standard. When we get a return for the week of \$100,000 that wants reducing to its probable actual value, it wants to have something like 15 per cent. taken off on account of the fall which has taken place in the price of silver and lead. In all our transactions and in all our books, whenever we speak of the value of the builton assayed, you will bear in mind that it is builtion as-ayed on this assumed value, and if so it will help you to understand a good many things which otherwise are apt to mislead. As doubte are very often thrown by partisan writers in some of the papers as to the accouncey of the accounts and weekly returns I will just mention and call your attention whilst on that point to the smelting statement which is published with the accounts in the last column of all. You will see that the total value of the builtion during the six months working as cabled to us amounts to \$1,594,000, whereas we have actually obtained from that very builtion \$1,923,467, so that when people write that our accounts are not quite accurate you may take it that they are not only accurate but they are invariably under the mark. (Cheers.) Now, I don't know that I need refer m

Mr. BRIDGWATER: What is the name of the captain?

The ORAIMAN: Mr. Potts; it is in the report. Mr. Probert has taken the necessary steps to prevent damage arising from their processings by locating for this company fresh claims in the im mediate viciotity. First of all I should the property to the company, as evidently belonging to but an attempt they ought to transfer it to us without any hesitation; they did not do it, and they were very properly dismissed the company's service, and other steps are being taken to protect the interests of the shareholders in that direction, which it would not be policy for me to refer to in this room, because, as a matter of course, it would very soon travel over to the other side, and might be made use of to defeat the made that the directors sould have weated so much paper and so much priot in the next paragraph referring to Mr. Pulbrook. (A laugh.) I can only say this, that the origic which the directors had in view was to piece clearly and properly before the shareholders exactly what has taken place with reference to that matter, and I may further sold that paragraph was not written hurrielly or inconsiderately, and I may further sold that paragraph was not written hurrielly or inconsiderately, and it may further sold that paragraph was not written hurrielly or inconsiderately, and it may further sold that paragraph was not written hurrielly or inconsiderately, and it may further sold that paragraph was not written hurrielly or inconsiderately. Mr. Ballowares: The question is one for discussion, and I think it is due to the sharcholders to state more fully the position of all parties. (No, no.)

The Olatical at Well, Mr. Bridgwater, I shall not state it at this stage of the sharcholders to state more fully the position of all parties. (No, no.)

The Olatical at the state of the case of course, when interviews and disquard this morning, that Mr. Vallance was very anxious to be with us, and will be with us a sposible, that of the day to the shareholders could have seen as p

which, in fact, I suggested to Mr. Bayliss; but so far as saying the board had agreed to do it themselves, it is to be gleaned from this circular that Mr. Broughton came up to town, and upset the proceedings of the board. That is not so.

Mr. Broughton: No
The Chairman: The question had never been considered by the board, nor had it ever been cofore them, and it is no use putting upon his shoulders more than a fair share, any more than upon the other members. All the board, with the exception of one, were of opinion that the proxies should go out in the usual way, simply because it was our cu-tom to send them out. My policy is one of peace. I do not want to say anything to hurt the feelings of anyone. There is another point devoted to the cluddation of the points is the report. I do not quarrel with that, but as to sending out pamphlets in answer to the report, giving the explanation of the directors. I do not think that was hardly to be expected, because the report of the committee an 1 the report of the directors were practically ready both at the same moment, and it was arranged with Mr. Bayliss that whetever happened, and how ever soon our report should be ready, it should not go ont to the shareholders until the committee's report was in their hands, but there should be a few days between at all events, to sive the shareholders an opportunity of onsidering carefully the report, which contained a great deal which required their consideration, and then the directors would send out theirs. Of course, we did not propose to write a pamphlet stating our views, but, as we said in this paragraph, we should do it when the shareholders mit, when the board would be fully prepared to give explanation where necessary, and vindicate themselves from what appeared to them to be unmerited censure. (Cheers.) I thought that was a very moderate and very modest paragraph—(hear, hear)—but I am told it has given a little offence. All I can say is that no offence was intended. I believe the words at which off-nec was taken were—"

the shareholders with comments either on the report or the accounts

motion, said it would be unnecessary for him to take up the time of the shareholders with comments either on the report or the accounts, as the Chairman had gone through paragraph by paragraph seriatim. The Chairman had gone through paragraph by paragraph seriatim. The Chairman had alluded to the circular sent out by Mr. John Bayliss, dated June 10, in which his (Mr. Broughton's) name appeared rather conspicuously. Beth do to intended to refer to this matter in any way whatever, but for the emphatic "hear, hear" with which Mr. Bayliss received the statement that Mr. Broughton had upset the decision of the board he thought it incumbent upon him to say one or two words in vindication of what he had done. One of the paragraphs of the circulars stated that Mr. Bayliss pointed out to the Chairman that the sending out of proxies by the board was in direct contravention of their previous decision, and the explanation given was that he (Mr. Broughton) attended the meeting of the 4th instant and insisted on proxies being sent out It was the perogative of the board of directors of all joint stock companies to send out proxies for both ordinary and extraordinary meetings to give an opportunity for an expression of the opinion of those shareholders who could not proxield the meetings—(hear, hear)—but he was bound to say that no decision had been arrived at by the board, and that the question had never been considered. He would not for a moment accuse Mr. Bayliss or any other gendeman of wilful misrepresentation, but he was without doubt labouring union a mistake in this respect. (Hear, hear.) If any decision had been arrived at by the board, and that the question had been arrived at by the board had come to any decision, but that the Chairman had state to him that they had done so. He had himself first or posed the sending out of proxies before the issue of the circular of May 29, and he was bound to say that the statements in the circular of the committee were correct in every part. He would only make a few remarks with r counts, he would first notice the statement that the net profits of the 10 months working amounted to 105,000. This was a satisfactory result as compared with what they had had in the past, but from an investigation into their affairs he would tell the shareholders that the profit ought to have been more. He would not weary them by going into the various points in the report, but he would give them one fact—and one fact was worth a hundred arguments. Their neighbours, the Eureka Company, working practically the same ores (for if there was any advantage the Richmond Company had it) had in the last nine months divided 270,0000, amongst the shareholders. He admitted they had cause to be thankful at the prospect of future profits held out to them, but they were, indeed, thankful for small mercles as compared with what the results ought to be. The sum or 19,872 had been spent "in respect to the lawsnit with the Eureka Company, and the proceedings of the committee of enquiry," but why on earth the committee were placed in such disagreeable company he could not understand. (Laughter.) They were not responsible for the lawsuit, though he thought it was in some measure owing to this lawsuit that the committee had been appointed. The committee had not cost 7s. 6d, per share, but is 6d, per share, but is 6d. per share. (A voice, and cheap too.) He was going to say that he considered the shareholders had value for their money. (Hear, hear.) He on y wished that all their expenditure had had a proportionate result. He would ask the directors whether any information could be given as to what were the improvements in the furnaces to which these successful results were attributed which had been made during the past nine or twelve months, which they ought not to have had with proper management and experience, two or three years ago. (Hear, hear.) He would feel exceeding y obliged for an asswer to that question. He congratulated the shareholders on the developments which had been made in the 200 and 400 ft. levels; but he was sur

mittee in the alteration in the accounts, and he was bound to state that the accountants had shown every willingness and desire to meet the committee by giving them information, and in meeting their suggestions it would also ask the directors whether the Eureka standard assays had not always been too high, and consequently misleading, and if so, why the sh ureholders had not been informed of the fact before. (Hear, hear.) Then there was a paragraph as to the mining captain —Mr. Putts—whose conduct had, no doubt, been disgraved; but he thought the managing director had not been altogether blameless, because seeing the direction the ore was taking, he should not have allowed the mining captain to get the better of the company as he had done. It ne'ther reflected oredit on his foresight nor his judgment. (Hear, hear.) The ground ought to have neen located to this company. Then no information was vouchsafed to them with respect to the Eureka lawauit, although a whole broad shees was given to the miserable dispute between Mr. Pulbrook and the directors. With respect to that matter, when the committee found that Mr. Pulbrook had ceased to hold which the Chairman was tion for a seat at the board, it was agreed at a meet of feed of Mr. Probert (interruption); he would ask the shareholders to refer to the report which showed that Mr. Pulbrook was the only member of the committee that Mr. Probert was anxious to see. (Hear, hear, and 'No no,' and further interruption).

The CHAIRMAN urged the meeting to give Mr. Bayliss, and all other speakers, a fair and impartial hearing.

Mr. BAYLISS, continuing, thought that there was rather an inclination to throw discredit on the labours of the committee. But what he wished to refer to was the absence of any information with respect to the lawauit with the Eureka Company, and he thought at all events the report of the directors should be amenied in that particular. The report of the committee might have been issued in April, but that the Ohairman (to whose credit it redounded) took

nary meeting should be postponed until the extraordinary meeting should be held. (Applause)
Mr. Tendron seconded the proposition, thinking that Mr. Bayliss had brought quite enough before the shareholders to induce them to fall in with his views with respect to the adjournment of the ordinary meeting for a short time. With every wish to avoid personalities, he thought they had a right to canvass the character of Mr. Probert in his capacity of manager of their affairs.
Mr. Beidgewarder asked if Mr. Tendron was not nominated for a seat at the board at this meeting?—Mr. Tendron very high compliment had been paid him, and his answer was that while he would be very happy to accept a seat at the board, he would be very sorry to see any gentleman removed to make room for him.

ept a seat at the board, he would be very sorry to see any gentleman removed to make room for him.

After a somewhat personal conversation between Mr. Bridgewater and Mr. Ports a somewhat personal conversation between Mr. Bridgewater and Mr. Ports, Q.C., expressed a hope the meeting would not degenerate into a personal wrangle. The question before the shareholders was whether the business of he extraordinary meeting should take precedence of that of the ordinary meeting. He supposed that, with the wish of the shareholders, the Articles of Association would allow of this course being adopted, and if so he thought it would tend to bring the meeting into the condition which it was desirable it should assume. (Applicate)

The CHAIRMAN having stated that the Articles of Association would allow of the extraordinary meeting taking precedence of the ordinary meeting, a resolution was, on the motion of Mr. J. Bayliss, passed, to the effect that the business of the ordinary meeting should be postponed until after the conclusion of the extraordinary meeting.

The CHAIRMAN then said they had now to commence the business of the ex-

of the ordinary meeting should be postponed until after the conclusion of the extraordinary meeting.

The CHAIRMAN then said they had now to commence the business of the extraordinary meeting, and it was his duty in the first instance to ask whether they would take the report of the committee as read, or whether they would prefer that it should be read. (Laughter, and a voice—"Read it," followed by ories of "No, no.") The shi reholders would recoiled when the committee was appointed it was stated in the requisition that it was to be in no antagonistic spirit to the board, and as showing the bona files of the requisitionists they suggested that he, being them the deputy-chairman, should be one of the committee. He assented to this spontaneous request of the shareholders, because the avowed object of the committee was to see if the working expenses could not be reduced, and generally to see if economies could not be introduced and the management of the mine improved. (Hear, hear.) He had worked loyally with the committee from first to last, and had assisted them in every respect. He thought the committee would bear him out in saying that he had assisted them to the best of his power. (Hear, hear.) Everything was placed at their disposal. The labour of the committee had been very great indeed, and he hoped that it would not be thrown away, but that it would have its reward and be beneficial in future to the company. (Applause) During some part of the enquiry he had been placed in the embarrassing position of being the accused and the accuser; but he did not complain of this, being perfectly ready and willing to be judged by past events. (Hear, hear.) He hought mistakes had, probably, been made in the past—nobody was infallible; but it should be borne in mind that they had had to manage a mine situated 6000 miles from them, where they could have no very complete control, and where they were bound, to a great extent, by the action of their representatives out there. The difference between the committee and himself w The CHAIRMAN then said they had now to commence the business of the ex ing, inprepared with stein decembrancy evidence is a linglit of encessary. In our afraid of meeting the shareholders face to face, but he declined to do so unhe was made acquainted with the specific charges which were made against he when he would reply either verbally or in a printed form to a public meeting shareholders. He would cease to receive the royalties at present, and he thou the better plan would be to give six months' notice to cease the Rozan desilver process. He (the Chairman) then stated that the committee's report had be supplied to the registered shareholders only, so that it might be a privileged commitation in case of any future proceedings. Mr. Probert had given no reswhy he could not come over until September -(hear, hear)—but he (the Chairman would remind the shareholders that it was expected that in this month the quiton of the damages for the ore removed from beyond the compromise line in Potts chamber would come on for hearing, when it was very desirable Mr. Prot should be present, as the damages were placed at the absurd amount of 500,0 hen, again, there were the Albion claims to attend to, which he might state what legal proceedings. The Hon. Thomas Wren, when he returns from attein (Congress at Washington, wants to see Mr. Probert with regard to im utter, and with respect also to another question mixed up with our with the Eureka Company. The directors had in the interests of the companies here in the report. (Hear, hear,) "Chairman then proceeded to refer to the difficulties which the company had perienced with regard to its managers prior to the appointment of Mr. Probe one in whom they felt they could depend. Then the company had suffered a great deal of annoyance and expense by the locations which had been taken up in their neighbourhood. The property was now an entirely different property, for they had spent \$8,000, out of revenue upon its improvements. When the company started there was only one furnace in existence, and they had now six furnaces, new engines, machinery, and refinery works. They had sunk the main shaft down a depth of 900 ft., nitted up with the best and most mofern appliances for hoisting, and they had a steam-engine of 80 horse power. These were some of the results which somehow or other had come about since Mr. Probest had been at the mine. (Applause.) When the property was purchased they had now about sixteen locations and no patents—the Richmond, the Virginia, and the Colorado. From time to time additional land had been taken up wholly in Mr. Probert's time, and they had now about sixteen locations and four patented properties, the patents having been obtained by Mr. Clarence King, in conjunction with Mr. Probert. In these transactions Mr. Probert had done all he possibly could to make the property as complete and perfect as possible. The committee's report stated in a most attribute paragraph that they leid of the mine between September, 1871, and August, 1877, had been 162,000 tons, or a gross value of nearly \$8,000,000, or 1,000,000,000 the solution of the company, not with standing its viciositudes, they had actually received 164 per cent. on the gross value of the crystial.

Mr. J. Bayliss remarked that the Eureka valuation referred to bullion, and not to ore.

The CHAIRMAN replied that ore was assayed under the same standard.

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Mr. Bayliss rem

commendations of the committee were the outcome of the report, and if the port itself were not correct the recommendations would not be correct. (Applause) Arrived was a grave charge at page 10 of taking ore out of the Pock (Applause), which was only valued at \$40 per ton, but this was through no fault of Mr. Probert, and if the company had been allowed to continue the workings they would time. (Applause.) As to why the furnaces were not shut down in 1877 the reason adopted the same profits as the Eureka company having commended Mr. Probert was that the litigation with the Eureka company having commended Mr. Probert and the theory of the same adopted the very ratural plan of running the furnaces, so as to make as much profit as he could to provide for contingencies. It turned out that he reason adopted the very ratural plan of running the furnaces, so as to make as much low grade, and he did not get the profit he had anticipated; but he (the Chairman thought the policy which suggested the running of the furnaces at that time was not a wrong one. (Hear, hear) As to the discoveries between the 200 had 400 ft. levels Mr. Probert would probably be able to explicit with these explications had not been made at an earlier period. (Hear, hear.) In the case of dicoveries in science or anything else it was generally wondered why people had not to have seen the thing before. However, this was a charge which necessitated Mr. Probert's personal explanation, as did many of the other points rised of Mr. Probert's personal explanation, as did many of the other points rised of Mr. Probert's personal explanation, as did many of the other points rised of Mr. Probert's management, and was proceeding with his remarks when — Mr. Alkman expressed an opinion that the Chairman was going too mindely into these matters. H. thought the time of the shareholders vis sellent with the committee had been listened to quietly the board were not allowed the same pricing. Accusations were made against an absent man an I the whole board, and they s

Accustions were made against an absent man an it the whole board, and they were hear.) It seemed to him that the Chairman was only doing what was fair and proper to all parties.

The CHAIRMAN expressed his regret that the discussion of the important matter at issue depended on Mr. Aikman's time. That gentleman's time was, perhaps, valuable, but he (the Chairman) had spent three months on the investigations of theometistes. The Chairman had also that gentleman's time was, perhaps, valuable, but he (the Chairman) had spent three months on the investigations of theometistes. The Chairman then dealt with the question of the eitherty, stading that be foreadopting the recommendation of Mr. Probert in this matter in 1874, the director had obtained the opinion of Mr. Clarence King, who quite uproved of the company erecting its own redinery, and the opinion of Mr. Clarence King was, he though, more to be relied on than the disparaging report of Prof. Raymond. The while question was whether the redining could be done cheaper and better at Eureka that by sending it elsewhere. There was a strong prime facial cases against the refinery but the arguments were not so conclusively certain against it frist the work should be shut up without hearing what Mr. Probert had to say with regard to them. At that moment the refinery we straing out from 1,0 Mr. Oil, 900, were should be shut up without hearing what Mr. Probert had to say with regard to them. At that moment the refinery we straing out from 1,0 Mr. Oil, 900, works, and the Eureka Company contemplated erecting their validities of the many works and the strength of the late of the refinery was training and choking the flues; but that state of things was all remedied in 1817, in it was easily to the pans cracking and large quantities of the late validities at 1900 was owned to the chairman having dealt in an exhaustive manner with the refinery works in the registrous of the case would be different. The Chairman having dealt in an exhaustive manner with the refinery works in th

ng at the offices of the company. In conclusion, the Unarthan moved the map, on of the report.

Mr. J. Bayetts, in seconding the motion, replied to various remarks mule by the Chierman, dealing especially with the question of the refinery works.

A long discussion ensued, in which Messra. Bayliss, Britawater, Pop. Q.C., ikman, and Fendron took part, in the course of which various suggestion sees hade for giving Mr. Probert an opportunity of making a state near in his orm.

defence.

Mr. Richardson proposed as an amendment to the motion for the reception of the report unit a special meeting could be held in September, at which Mr. Probert should be requested to

Wr. Pulbrook here addressed the meeting amids a good deal of interruption. Mr. Bayliss ultimately proposed a resolution, "That the report of the committee appointed at the meeting held on Aug. 23. 1877, he received and adopted, together with the recommendations of the committee (withdrawing any question of claims against the directors), and that the same be referred to the board for their guidance. The board being authorised to deal with all claims between Mr. Probert and the company in such manner as they may deem advisable."—Col. Steuart seconded the resolution.

In the course of some further discussion, Mr. Pope, Q.C., proposed as an amendment, "That the report of the committee now received he referred to the board, and that they be requested forthwith to consider the recommendations of the committee, and report to a feture extraordinary meeting as to the desirability of carrying out such recommendations." sent. PULBROOK here addressed the meeting amidst a good deal of interr

urrying out such recommendations."

Mr. Bridgwater was prepared to support the amendment, and to review to its condemnation the entire report; he dealt with the formation of the committee the definition of its powers, and then contended they had acted ultra vires in applying for proxies. He formation of the committee the definition of its powers, and then contended they had actel ultra vives in applying for proxies. He then commented upon the elementary instruction received by the committee at Messrs. Enthowers, and remarked they should have gone to Seresstle (Messrs, Cookson's) where the Rozan and not the Pattinson process is in operation. That they then went to the States and inspected and approved of the Pattinson process everywhere, but that when they reached Eureka they condemned the Rozan process in toot, though curiously enough Mr. Elementers the two processes as one and the same. He then remarked upon the criticisms of the committee in the chapter on mining, remarking that Mr. Edgia and Mr. Plummer had both commended the managerial conduct of the mine, and yetereything was objectionable to the committee. The lode vein had been followed unloy, and there had been no prospecting, whereas their own returns show that in the last two years ten new locations or patents have been obtained by Mr. Perbert, and that it was injudicious as well as impracticable to attern to buy locations chaply when prospecting has disclosed their ores, and that Mr. Probert had near wise than the committee in this respect, and that the board were entitled to credit for having judiciously pushed forward the undertaking and had at the same time pid incumentary in the committee of the same and the further added, that in regard to the order to the same time pid incumentary which had been adopted by each manager in turn. H. (Mr. Britaguter) was then proceeding to comment upon the refinery and the Rozan patent when the Chairm an asked him not at that late hour to deal with the same time pid incumentary in the committee, min the same time pid which had the same time pid which he (Mr. Bridgwater) concurred, merely remarking that he felt embarased their proxies to the committee, might see there was sound ground for results their proxies to the committee, might see there was sound ground for results their proxies to the committe

SOUTH AURORA CONSOLIDATED MINING COMPANY.

An extraordinary general meeting of shareholders was held at the Cannon-street Hotel, on Tuesday,—Mr. SPRATT in the chair, to confirm the following resolutions passed at the extraordinary general meeting held on May 31 last:—

holder

you into Corsical shares for Mr. C

The con and nov funct, a which i

Mr. had be than t were year, i pany. of a pr attribu new m and m the year of coa was de

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being op while see of the G. The Si that wor taking 1 England ton, this circumst

report ar The Cr coot of re the quar very hea On the rectors, 1 Mesers. ' On the

ich member, or out of such funds and by such means as the liquidators and

to such member, or out of such funds and by such means as the liquidators and the new company may agree upon.

6.—For the purpose of the above scheme, the draft agreement intended to be above scheme, the draft description of the above scheme, the draft description of the above scheme, the draft description of the new company respectively. Submitted to this and Articles of Association of the new company respectively, submitted to this and Articles of Association of the new company respectively, submitted to this and Articles of Association of the new company respectively, submitted to this and Articles of Association of the new company respectively, submitted to this and Articles of Association of the new company respectively approved.

Mr. C. CADOGAN (secretary) read the notice calling the meeting. The CHAIRMAN said the meeting was of a formal character, for the purpose of confirming what was carried out at the last meeting, on which occasion the directors had 160 proxies, besides the shareholders present. Therefore there could be no question that the resolutions would be confirmed in the ordinary way, and they would be able to reconstruct the company, and carry out the object they had in view.

Mr. DAVIS said he supposed the shareholders would, before the resolution. Hemoved that the resolutions be confirmed. — Mr. TOWER seconded the resolution, and the reasons why the company was entering upon a new phase altogether. In the first place, he should like to know the reasons which had led to the company, and the reasons why the company was entering upon a new phase altogether. In the first place, he should like to know the reasons which had led to the company being wound up?

The CRAIRMAN said he had no objection to any questions being raised, but he reminded Mr. Davis that the whole subject was discussed at great length at the reminded Mr. Davis that the whole subject was discussed at great length at the reminded Mr. Davis that the whole subject was discussed at great length at the reminded Mr. Davis that the wh

meeting was called, under the AG of I randick, passed. The reasons why the company should be reconstructed had been already passed. The reasons why the company should be fully enquired into Mr. Davis said he thought that the whole matter should be fully enquired into Mr. Davis said he thought that the whole matter should be fully enquired into Mr. Davis said the thought that the South Aurora must become deand now that the shareholders must embark upon an entirely new enterprise, funct, and that the shareholders must embark upon an entirely new enterprise, which no doubt the directors did disinterestedly. Which no doubt the directors did disinterestedly. Which no had said, by a large majority of the shareholders. At the same time proved, as he had said, by a large majority of the shareholders. At the same time from the fifth of the control of the control of the world of the control of the world of the control of the control

In answer to the south Aurora Company but simply the South Aurora would be attached to it.

The resolution was then put, and carried.

The resolution was then put, and carried.

Mr. APPLEGARTH said that by the proposed scheme the South Aurora would be Mr. APPLEGARTH said that by the proposed the tunnel by the Eberhardt kept alive till they knew the result of the driving of the tunnel by the Eberhardt kept alive till they knew the result of the driving of the tunnel by the Eberhardt kept alive till daiso be a success. and Aurora, and if that company succeeded this company would also be a success. The shareholders would fail in their duty to the mine if they do not await the shareholders would fail in their duty to the mine if they do not await the

that driving.

e motion of Mr. John King a vote of thanks was passed to the Chairman

eterors, and the meeting broke up.

NERBUDDA COAL AND IRON COMPANY.

The eighteenth ordinary general meeting of shareholders was held

The eighteenth ordinary general meeting of shareholders was held at the offices of the company, Finsbury-circus, on Tuesday,
Mr. WILDE in the chair.
Mr. F. R. BLUETT (the secretary) having read the notice convening the meeting, the report and accounts were taken as read.
The CHAIRMAN said he wished a larger number of shareholders had been present at the meeting, because he considered when they thence to vary the position of the company as he had during the past had been present at the meeting, because he considered when they thought over the position of the company as he had, during the past few days more particularly, they were really in a better position than they would seem to be judging from the report. The directors were exceedingly disappointed with the results of the past year's operations, not only as directors, but as large shareholders; for although the output was only 881 tons less than in the preceding year, the receipts were 2965l lower, owing to the smaller price obtained for their coal from the Great Indian Peninsula Railway Company. This was really the reason why there was a small loss instead of a profit of perhaps $2\frac{1}{2}$ per cent. The smallness of the output was attributable to various causes, but principally to the cholera and the free which occurred in the previous year, and of the fact that their new manager had not got into thorough command of the place, new manager had not got into thorough command of the place, and more particularly to the fact that during some portion of the year the Great Indian Peninsula Company limited the delivery of coals to them to 800 tons a month. For a few weeks no coal of coals to them to 800 tons a month. For a few weeks no coal was delivered to the company, as they would not pay more than 7 rupees a ton; it would be better to shut up the mines than to sell the coal at that price. It was found, however, that the Great Indian Peninsula Company could not get on without the Nerbudda coal, and it was finally settled that the price should be 9 rupees per ton; the stipulation which had hitherto existed, that beyond a certain amount the price per ton should be reised being withdrawn. sen tue cont at that price. It was found, however, that the Great Indian Peninsula Company could not get on without the Norbudda coal, and it was finally settled that the price should be 9 rupees per ton; the stipulation which had hitherto existed, that beyond a certain amount the price per ton should be raised, being withdrawn. Practically the company had only one customer, but he was sure that that would not always be the case. The low price of coal in England, the cheap freights, the low price at which the East Indian England, the cheap freights, the low price at which the East Indian England, the cheap freights, the low price at which the East Indian England, the cheap freights, the low price at which the East Indian England, the cheap freights, the low price at which the East Indian England, the cheap freights, the low price at which the East Indian England, the cheap freights, the low price at which the East Indian England, the cheap freights with good management they ought to turn out a sufficient quantity of coal to sell with good management they ought to turn out a sufficient quantity of coal to sell at 9 supers part on, and give them a very fair dividend. By turning to the account, the shareholders would see that daring the past year a large sum had been spent out of revenue. On No. 2 shaft nearly 2800, had been spent; this shaft had been such to a certain depth for several years, but until Mr. Maughan took charge very little was done. Since that time 2800, had been spent in getting the shaft into order. Owing to the breakdown of a boiler they had not been able to and which from the new incline; but the Robey engine which had been sent out. Mr. Maughan in his report ching there. Another engine had also been sent out. Mr. Maughan in his report ching there. Another engine had also been sent out be shaden in the Indian Museum. Specimens of coal raised had been received, and had been received, and some specimens of coal raised had been received, and had been received, and some specimens of coal raised had

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report and accounts.

The CHAIRMAN, in reply to Lord Richard Browne, said a reliable estimate of the cost of raising the coal in the future could not be made, as so much depended on the quantity raised. The item of European superintendence was, of course, a very heavy item.—The motion was then carrie 'unanimously.

On the motion of the "HAIRMAN, seconded by Lord R. BROWNE, the retiring discourse, was a superintendence with the retiring discourse, was a superintendence with the retiring discourse, was did and Co., were also re-appointed.

Messra, Waddell and Co., were also re-appointed.

On the motion of Lord R, BROWNE, seconded by Mr. WAGSTAFF, a vote of thanks was passed to the Chairman and directors.

13th inst., Mr. A. G. BROOKES in the chair.
The SECRETARY read the notice convening the meeting, and the directors' and manager's reports were taken as read.
The CHAIRMAN then said: The report which has been circulated amongst you places before you all the important facts connected with our business since I last had the pleasure of addressing you. It is with satisfaction, tinged by a shade of vain regret, that I shall presently move the adoption of that report with the accompanying accounts. I regret that, owing to circumstances over which we could exercise no control, our profit account has not enabled us to recommend to you the payment of a dividend on your shares. Satisfaction with the comparative result of our trading. When we see other individuals and other companies—labouring under the same adverse influences which have affected us—unable to pay their see other individuals and other companies—labouring under the same adverse influences which have affected us—unable to pay their way, and either working at a serious loss, or driven by the risk of financial ruin to partially or wholly cease working, we cannot but congratulate ourselves that we have not only been enabled to keep our colliery in full operation but that we have given full employment to our men; that we have raised a fair amount of coal, and that we have sold all we have raised—and still more all we have been obliged to buy—at a profit such as is almost marvellous in such a time as we have passed through. I think I may safely say that there is not a single company—at least I know of none—carrying on a business similar to ours that can show such a satisfactory balance-sheet as we do; and I think I am justified, too, in congratulating you upon the fact that though times have been bad, and gratulating you upon the fact that though times have been bad, and everyone has, generally speaking, been very averse to investing money in anything, the company's dependence have been all taken up. As a proof of the popular estimation of the value of the property I may mention that they have been entirely subscribed for by genuine investors, and indeed to a considerable ext-nt by trustees. I have reason to believe that the confidence thus shown is in a great measure owing to the course which has been consistently followed measure owing to the course which has been consistently followed by the board. I might mention many companies in which the future has been sacrificed for the present. Enormous dividends have been paid for a year or so, and collapse has inevitably followed. This, gentlemen, is not our policy. The great majority of our shareholders are bona fide investors—people who have put their money into our company in the belief that it is safely invested and will he carefully looked after by those to whom they have entrusted the direction of their busin-ss. Such has been our idea of the charge entrusted to us, and we have, to the best of our ability, carried it out. While working the colliery to the best alvantage we have, with a view to the future, indiciously opened and are still opening entrusted to us, and we have, to the best of our ability, carried it out. While working the colliery to the best alvantage we have, with a view to the future, judiciously opened and are still opening out the property in such a way as to enable it to make steady and large returns to its proprietors. The two new shafts which were in process of sinking when we last met here have now been completed to the Park seam, and we expect to be raising in the course of a few days a very largely increased quantity of coal from that mine. In fact, when the new engine, which you have all seen is nearly finished, is at work, which we hope will be the case a week hence, we shall be able immediately to about double our output, and gradually to raise it to at least 1000 tons per day, as promised by our manager. With such an output, and basing our calculations upon the experience of even the worst period through which a colliery could go, I think we are justified in anticipating very considerable pecuniary returns upon our emporary difficulties, we shall reap a rich reward on our investment. The accounts laid before you have been drawn up in the same form in which they have always been submitted to you, and I think they require little or no observations from me. I may mention, however, that we might, without laying ourselvss open to any charge of want of frankness, have presented a more favourable result than is actually shown; but we have in this, as in all our actions, been anxious to clear the ground for a preservors, future, and with this chiefet in view ground. but we have in this, as in all our actions, been anxious to clear the ground for a prosperous future, and with this object in view we have written off from several amounts considerably larger sums than, perhaps, the actual necessity of the case required. There is one item in the present accounts which I am happy to say has never appeared before. I refer to the 97t written off as a bad has never appeared before. I refer to the 97% written off as a bad debt. Any business, however well conducted, is subject to such a misfortune, but when it is considered that we have, since we commenced operations, turned over more than a quarter of a million of money in actual trade, I do not think you will be disposed to blame either us or our manager for this one and only loss of under 100%. On the contrary, if you consider the extent of our business I believe you will think, with me that great credit is due to our manager for the caution to which this only bad debt bears witness. I think no doubt can exist in the minds of any of us as to the value of our property. We can appeal to past experience as a proof of its manager. perty. We can appeal to past experience as a proof of its management and as a good augury for the future, and I have laid before you the course we have adopted and propose to follow for the purpose of securing the success of that future. I do not hesitate to say that I and my colleagues have no doubt as to your support of our policy. I must now refer to a very important—in fact, essential—part of the business which will come before you to-day. You will have learned from the report the position in which matters stand as regards our mortgage. The adverse circumstances which have affected our trading have also precluded the possibility of our carrying out the reduction of the mortgage as originally contemplated, and I am sure I express your sentiments as fully as I do ours when I say we are greatly indebted to our mortgagee for the considerate manner in which he has realised our difficulties and assisted us in meeting them. I need not point out to you, as men of business, the binding nature of a mortgage deed, and the serious consequences which must ensue if a mortgagor cannot carry out such terms of the deed as the mortgagee may insist upon. Our mortgagee has been peculiarly lenient. He has, no doubt, recognised the value of his security, and I know he has realised our desire to deal fairly and straightforwardly with him. He has shown a desire to reciprocate that fair dealing, and has consented to the arrangement already reported to you. We should have been very glad to have arrived at a settlement which would have obviated the necessity of raising further capital, but considering the terms of our mortgage, and the extent to which we have failed to carry them out, we have no ground to complain of the amount of indulgence accorded to us by one who, if he had insisted upon his legal rights, might have jeopardised our position as a company. We have given very careful consideration to the proposed scheme for raising the money to pay the sum required by the mortgagee next month, and we recommend it to your approval as one which will enable us to meet the circumstances of the case without prejudicing your interests. We propose the issue of 15,000% of preference shares, not because that amount is absolutely r pose of securing the success of that future. I do not hesitate to say that I and my colleagues have no doubt as to your support of our policy. I must now refer to a very important—in fact, essential providing for the 10,000l. required by the mortgagee, it will be convenient to provide a small sum to permit of the working balance of the company being increased. This is at least desirable, as the output, and consequently the trade, of the company will be greatly increased. We have promised our mortgagee that the payment named shall be made, and in making that promise we have relied upon the support which we consider we have a right to expect from the shareholders. We conscientiously believe that we have done all that has been possible to promote the general interests of the company, and I will go so far as to say that in giving such an undertaking we have, as I think we were justified in doing, pledged the honour of the company that this 10,000l. shall be promptly paid. With regard to the mode of raising the money, the resolution which we propose for your adoption enters fully into all particulars. Our view is that the profit which we must inevitably derive from the we propose for your adoption enters fully into all particulars. Our view is that the profit which we must inevitably derive from the great development of the property will enable the company to pay the interest on the preference shares without interfering with the dividends to which the ordinary shareholders will be justly entitled, and still further to provide a fund out of which these preference shares, as well as the debentures, can be quickly extinguished, so that the ordinary shares will eventually represent the sole capital

The CHAIRMAN, in acknowledging the compliment, said he thought Mr. Maughan deserved very great praise for what he had done since he had been at the mines, and for the excellent state into which he was bringing the works.

The meeting then terminated.

CHAPEL HOUSE COLLIERY.

A general meeting of shareholders was held at the colliery on the 13th inst., Mr. A. G. BROOKES in the chair.

The SECRETARY read the notice convening the meeting, and the directors' and manager's reports were taken as read.

The CHAIRMAN then said: The report which has been circulated amongst you places before you all the important facts connected counts be received and adopted. counts be received and adopted.

The resolution was then seconded and carried, and the following

the resolution was then seconded and carried, and the following solutions were passed:—

.—That the directors' and manager's reports, together with the statements of sounts, be received and adopted.

.—That Mr. John Culpan be and is hereby re-elected a director of the company.

.—That Dr. W. H. Lethvidge be and is hereby elected a director of the company.

.—That Dr. A. O. Grosvenor, of Enfield, be and is hereby elected a director of company.

4.—That Dr. A. O. Grosseno, of Manager and Mr. G. E. Holt be and they are the company.

5.—That Messrs. Cooper, Wintle, and Co., and Mr. G. E. Holt be and they are hereby re-appointed auditors of the company's accounts in London and Liverpool respectively, at a remuneration of £25 each, including all obarges.

6.—That the cordial thanks of the company be tendered to the Chairman, directors, and officers for their able and energetic management of the company's officer.

The meeting was then made Special, when the following resolu-tion was carried unanimously:—

tion was carried unanimously:—
That this company hereby sanctions the increasing by its directors of the company's present capital to the extent of 15,000k, such increase to be effectuated and raised by the immediate creation and issue of 3 00 new shares in this company of 5k each, and such shares shall have and be subject to the following special rights privileges, priorities, and advantages, which shall be stated on the certificates of such shares:—

ach, and such states shall have and de adopted as the total on the certificates of islares:—

I slares:—

1.—They shall bear and enjoy a preferential dividend at and after the rate of 10/t, per centum per annum on the paid-up amounts of such shares respectively, payable out of profits.

2.—They may at any time be redeemed by the company at 6/t, per share, the preference dividend being paid to the time of redemention.

3.—They may at any time be exchanged by the registered holder thereof for ordin may shares in the company of the like number and amount, the holder of such preference shares first giving to the company one calendar month's previous notice in writing of his wish and intentious to exchange the same; and the directors of the company shall and they are hereby authorised to give effect to this provision, and for that purpose, as occasion may require, may create, register in the books of the company, and issue to the person or persons entitled to receive the same, ordinary shares in the company equal in number and amount, and in substitution for the preference shares proposed to be exchanged, and on such exchange being completed they shall cancel the preference shares shall thereupon case.

4.—They shall, if this company be wound up before such shares shall have been exchanged for ordinary shares, be and form a first charge (after the payment of this company's debts and liabilities) upon this company's assets, and the holders of such preference shares shall be neithed to and be repaid the amount thereof, in priority to the holders of the company's ordinary shares.

shares.

The shares now created shall be offered to the shareholders rateably in proportion to the number of their existing shares, or as near thereto as may be, and such shares as shall not on such offer be accepted by the shareholders may be issued, a lotted, or disposed of by the directors as they in their discretion may think fit.

The meeting then broke up with a vote of thanks to the Chairman.

CAKEMORE COLLIERY COMPANY.

An extraordinary general meeting of shareholders was held at the offices of the company on Tuesday for the purpose of altering the name of the company, and sanctioning the issue of a further 18,000% capital, Mr. CHARLES MORRIS in the chair.

The CHARMAN stated that there were two important objects to be attained by the proposed alteration of the name—to include therein the names of two adjoining properties, which have been recently acquired by the company, whereby its mining area has been nearly quadrupled, but which increase in the area the directors had found by experience it was very difficult to make local neonla nearly quadrupled, but which increase in the area the directors had found by experience it was very difficult to make local people understand, so long as it was called only by the name of Cakemore, which name they had always understood to apply merely to a plot comprising less than one-third of the present accease of the company's property. They also thought that even though the colliery was (notwithstanding the depressed state of the coal and iron trades) making profits from mere drivages it was most advisable to import into the title some mention of the brick making, which, now that the additional grinding mechinery adapted for dealing with the blue mark to the extent of making 200,000 bricks per week was on the verge of completion, will in future form a most important element in this company's operations, not only as ensuring a very large profit on the manufacture of these blue bricks but also as profitably utilising that portion of the colliery proluce which is least saleable.

From the description given by the Chairman, based upon the report of one of the past presidents of the South Staffordshire Institute of Civil Engineers, and the Messes. Clayton, the well known brick machinery makers, and others, it certainly appears that there is a very bright future for this undertaking, owing not only to the fortulious combination of brick-making with coal getting, but also owing to the colliery being so advantageously situated that it can make profits even in these times, having no water to cope with, on danger of explosion, a good outlet for its produce, and an almost unheard of area of the Thiok coal of that district, being in this particular property about 23 ft. thick.

The attendance of shareholders in person, and by proxy, represented 55,228, out of the total capital of 60,000/, and all the resolutions proposed were passed unanimously.

COURT GRANGE SILVER-LEAD MINES COMPANY.

COURT GRANGE SILVER-LEAD MINES COMPANY.

The ordinary general meeting of shareholders was held at the company's offices, Winchester House, Old Br and-street, on Thursday, Mr. Thos. EYRE FOAKES in the chair.

After the usual preliminaries, the report of the directors, with appended accounts up to June 6, was taken as read.

The CHAIRMAN, in rising to move the adoption of the report and accounts, duly circulated amongst the proprietors, said he was pleased to be in a position to congratulate the meeting on the condition of the mine, and on the encouraging prospects before them. From a perusal of the report the shareholders would see that, though the erection of the dressing machinery had certainly entailed greater cost than was at first anticipated, and had also dition of the mine, and on the encouraging prospects before them. From a perusal of the report the shareholders would see that, though the erection of the dressing machinery had certainly entailed greater cost than was at first anticipated, and had also occupied more time than was expected, it was satisfactory to know that the work done was of a most substantial character, and on such a scale that the company would be able to deal effectively with the ore raised at a cast leaving a sufficient margin of profit even at the low values actually ruling for silver-lead in the market. This was an important feature, and he was gratified to feel that the proprietors would in the end reap the benefit of the great patience they had been called upon to exercise. They had had many difficulties to encounter, but he believed that they ere now at that point in their career as a company when the proprietors might fairly look forward to a specify calisation of their hopes. (Hear, near) the had always had confidence in the resources of the confidence of the c

present would fetch about 16!. per ton. As stated in his report, he expected to start dressing operations next mouth, and the reservoirs would be finished in about three weeks time. They had about 100 tons of ore on the surface ready for dressing; that ore represented a value of about 16,000!. The Court Grange sett was over 600 acres in extent, and the Monydd Gorddu lode penetrated it for about 600 fms. The mine was only two miles from a railway station, and was otherwise well situated. On the whole he considered that the future of the property was assured, and that the shareholders had every reason to be pleased with their property.

secrety, and that the second of the second of boring-machine it was reported to purchase? The matter was one requiring great caution.

Mr. Hogers (a director) explained that it was not proposed to purchase boring-machines at all, but only to contract with some company to do the work at an greed price. The company would run no risk, and would simply pay upon re-

agreed price. The company would run no risk, and would simply pay apost sults. (Hear.)
Mr. Pell hoped they might get the work done as cheaply as by hand. The saving in time would be very great.
Another SHAREHOLDER apprehended that if they drove so rapidly the ore brought to surface might be more than could be dressed, and would cause in-

orough: to surface might be seen and the state of the sta

unanimously.

The retiring directors (Messrs. P. J. Brigg and Alfred Wilson) were then reelected, as was also the auditor, Mr. L. H. Evans, and the proceedings terminated
with a vote of thanks to the shareholder who advanced the 2500% to meet the requirements of the company, and to the directors for giving their personal guarantee for the repayment of the same.

The meeting having been declared extraordinary, in accordance with the notice
convening it, the shareholders unanimously passed a special resolution increasing
the capital of the company to 3,000%, by the issue of 6000 ordinary shares of 1%
each.

[For remainder of Meetings, see to-day's Journal.]

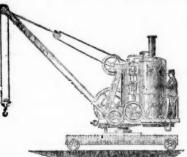
SAFETY-LAMPS.—Anything of which we could write which is cal-culated to reduce the dangers of mining operations would be inte-resting to our readers; and it is with great pleasure that we call attention to the invention of an improved safety-lamp. Mr. J., Williamson, the experienced manager of the extensive works of the Cannock and Rugeley Colliery Company, at Hednesford, has for a long time been making a study of various safety-lamps hithery long time been making a study of various safety-lamps hitherto before the public, and after many trials and a long course of experiments, has suc ceeded in producing a lamp which is destined to supersede all others for mining purposes. On Monday, the 3rd inst., Mr. Williamson read a paper on "Safety-Lamps" at a meeting of the North Staffordshire Institute of Mining and Mechanical

Engineers, at Stoke-upon-Trent, in which he explained the points of his new lamp and compared it with the other lamps commonly in uss. It appears to combine the best elements in what have been regarded hitherto as two of the best lamps —the Stephenson and the Clanny. It is even safer than the Stephenson, whilst it gives a better light than the Clanny. The new lamp has been put to severe tests by Mr. Williamson and by engineers in the North of England, and in no case could the lamp be made to explode. When we are told that the firing of a shot, the closing of doors, or the fall of a roof, is sufficient to cause the Davy, the Clanny, or the Meuseler lamp, when in use in an explosive mixture, to explode, it is not small achievement to have produced a lamp with all the advantages of the hitherto safest lamp (the Stephenson), and giving a superior light to any. Its light is not easily extinguished when exposed to air passing a high velocity; and when approaching a body of gas, the top or halo may be seen clearly; and if the lamp be plunged into a body of gas, the light is extinguished by generation of carbonic acid gas, before sufficient heat is produced to harm it. We were much interested in an opportunity we had of seeing the new lamp tested. There has been a good deal of discussion of late as to fhe desirability of prohibiting the use of naked lights in mines, and enforcing the use in all cases of safety-lamps. At present it is the exception and not the rule to use safety-lamps in coal mines; and although it is in mines, and enforcing the use in all cases of safety-almps. At present list he exception and not the rule to use safety-lamps in coal mines; and although it is in mines, and enforcing the use in all cases of safety-almps. At present list but that yield inflammable gas, but in such small quantities as not to be perceivable until an explosion occurs. The line between fiery and non-flery mines is very difficult to determine, and the only real security will be in an Act of Parliament making the use of safety

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BENNETTS' SAFETY FUSE WORKS ROSKEAR, CAMBORNE, CORNWALL.

BLASTING FUSE FOR MINING AND ENGINEERING

PURPOSES,
Suitable for wet or dry ground, and effective in Tropical or Poly a Climates.

W. BENNETTS, having had many years experience as chief engineer with Messrs. Bickford, Smith, and Co., is now enabled to offer Fuse of every ariety his own manufacture, of best quality, and at moderate prices.

Price Lists and Sample Cards may be had on application at the above address V.ONDON OFFICE.—H. HUGHES, Esq., 25, GRACECHUECH STREET.

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RAILWAY PASSENGERS ASSURANCE COMPANY, For providing against
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Free Edition, 152 pages, post free, in envelope, two stamps. The

WARNING VOICE.—A Special Medical Book for Young Men, on the Cause, Consequence, and Treatment of certain forms of Debin, and Nervousness, viz.—Mental and Physical Depression, Palpitation of the Heaf, Noisee in the Head and Bars, Impaired Sight and Memory, Indigestion, Paiss is the Beak, Headache, Piles, Constipation, Hysteria, Dixiness, Local Westers, Muscular Relaxation, Nervous Irritability, Biushing, &c., resulting from Substitution of Nerve Power, effect of Overwork, City Life, Worry, Brain Toll, Islanders, Dr. H. SMITH, 8, Burton Oresent, London, W.C.

AWARDED THE PRIZE MEDALS AT LEEDS, MANCHESTER, AND WREXHAM EXHIBITIONS, 1875 AND 1876.

HADFIELD'S STEEL FOUNDRY COMPANY,

ATTERCLIFFE, SHEFFIELD,

CRUCIBLE STEEL CASTINGS, for Engineering and Mining Purposes,

Hadfield's Self-oiling Steel Wheels

(PATENTED).

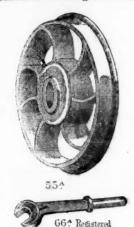
These possess advantages held by no other wheels, and are specially adapted for Collieries, Ironstone Mines, Slate Quarries, Lead and Copper Mines, &c., &c., where LOOSE Wheels are used (i. e., those revolving upon their own axles). By the old system of lubricating loose wheels, it is well known this is attended with constant labour and excessive waste; and as so little of the grease or oil applied reaches the wearing surfaces, and as re-greasing can only take place at fixed parts of the workings, the bosses of the wheels and bearings of the axles soon become dry, and cut each other: thus causing enormous wear and tear, and necessitating extra labour, haulage power, and expense. These and numerous other defects are entirely remedied by these wheels, as will be readily seen from the following illustrations and advantages claimed.

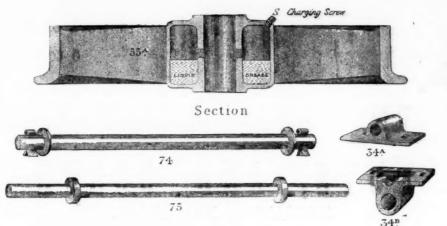
Axles (ready 3. Diameter of No. 74 or 75. e per Set of Wheels and A and, 2. Width of tread. ; th of axle, also whether N. 5. Rolling load.

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This Sheet of Drawings 18 Copyright.

The following are a few of the numerous Advantages claimed by the above Self-oiling Wheels:—
1.—Two-thirds (at least) less grease or oil is required than at present used by any known method of lubricating Mining Wagons, whether by hand, machine, or otherwise.
2.—These wheels effect a very great saving in haulage power; also wear and tear—being so constructed as never to allow the bearings to become dry. The revolving of the wheel leads out the oil as required, and immediately the wagon stops the lubricator-ceases its action,
3.—No waste of grease can occur, no matter in what position the wagon may be placed, when discharging its contents (even if up side down); and when the wagons are not in use it is utterly impossible for any grease to escape, as it is all stored below the outlet (as shown above).
4.—When once these wheels have been charged with liquid grease (which can be done by any inexperienced person) they do not require any attention or re-greasing whatever for several weeks or even months atterwards, in proportion to the distance travelled.

4.—When once these wheels have been charged with rights greate (which can be reven months afterwards, in proportion to the distance travelled.

5.—These wheels can be readily fixed to any description of either wood or iron corves now in use, whether the wheels are upon the inside or outside of the frame.

6.—They are exceedingly simple in construction, have no detail, and are not liable to get out of order.

7.—They possess great strength, durability, and extreme lightness, being made of CRUCIBLE STEEL.

Where FAST Wheels and Axles are adopted instead of Loose ones, as shown above, see our Illustrated Sheets of Drawings Nos. 2 and 3 of

Crucible Steel Wheels and Axles, fitted complete by Hadfield's Patent Method, and Hadfield's Self-oiling Pedestals.

ORMEROD, GRIERSON, AND CO.

ST. GEORGE'S IRONWORKS, MANCHESTER, Engineers, Millwrights, & Boiler Makers,

Stationary Steam Engines and Boilers for all purposes, Mill Gearing, Sugar Machinery, Cranes, Turn-Tables, and Railway Fixed Plant of all descriptions; also, the Diamond Rock Boring Company's Plant —viz.: Compressed Air and Air-Compressing Engines, Prospecting Machines, Tunnelling Machines, and Shaft Sinking Machines.

HYDRAULIC PRESSES OF VARIOUS KINDS

Have the Largest Assortment in the Trade of

PATTERNS.

WITH MACHINE-CUT TEETH, OF

SPUR WHEELS, BEVEL WHEELS. MITRE WHEELS,

FLY WHEELS. DRIVING PULLIES & DRUMS,

CAN BE SUPPLIED BORED AND TURNED IF REQUIRED.

CATALOGUES ON APPLICATION.

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ALEXR. WILSON & CO., VAUXHALL IRONWORKS.

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MANUFACTURERS OF

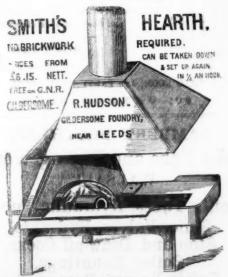
THE VAUXHALL DONKEY PUMPS. THE EXCELSIOR DIRECT-ACTING PUMPS.

HIGH-PRESSURE SCREW ENGINES COMPOUND SCREWS ENGINES. PATENT SURFACE CONDENSING ENGINES.

PATENT PADDLE ENGINES. HOISTING MACHINERY.

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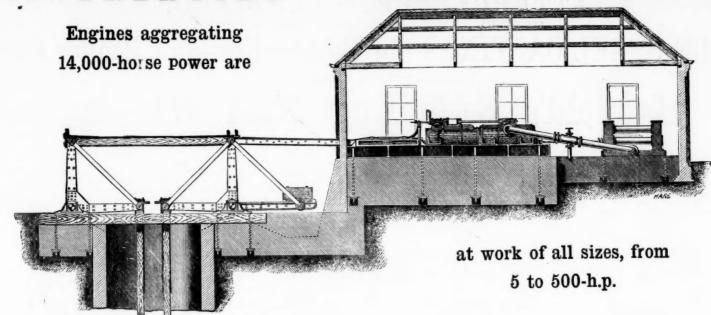


GREAT SAVING IN ROOM.



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PUMPING ENGINES. DIFFERENTIAL



HATHORN, DAVIS, & DAVEY, LEEDS.



BOLTS, NUTS, AND COACH SCREWS.

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PROVIDENCE BOLT AND NUT WORKS, THE GREEN, DARLASTON,

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HARRIS'S PATENT WROUGHT-IRON WINDOWS.

DOME AND OTHER ROOF LIGHTS, FLOOR AND PAVEMENT LIGHTS, ETC.

PATENTED IN



GREAT BRITAIN, UNITED STATES OF AMERICA,

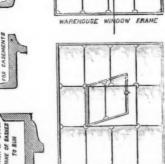
ARE STRONGER, SUPERIOR, AND CHEAPER THAN ANY OTHER METAL SASHES YET PRODUCED-COST LESS FOR GLAZING-ARE AS CHEAP IN MANY CASES AS WOOD

Private Houses, Parsonage Houses, Farm Houses. Churches. Chapels, Schools,

> ILLUSTRATED CATALOGUES ON APPLICATION.

In Basement Storeys and Exposed Positions Shutters and Guard Bars are dispensed with.

HOME AND



FRANCE

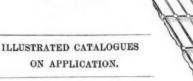
-CAN BE DESIGNED AND MANUFACTURED TO SUIT ANY STYLE OF ARCHITECTURE OR POSITION WHERE A WINDOW MAY BE REQUIRED.

GERMANY, AND BELGIUM.

ARE BEING EXTENSIVELY USED IN-

Lunatic Asylums, &c., Public Buildings, Banks, Wharves, Warehouses, Factories, Mills, Breweries, &c.,

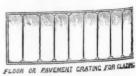
Engine Houses.



ON APPLICATION.

Security is obtained in these Skylights without Guard Bars, and with less obstruction





Sole Maker-J. T. HARRIS, Engineer, Ironfounder, and Manufacturer, SAFE, STRONG ROOM, AND PARTY WALL DOORS, AND EVERY KIND OF CONSTRUCTIONAL AND BUILDERS' IRONWORK, LIFTS, HOISTS, ELECTRIC BELLS AND TELEGRAPHS, 90, CANNON STREET, LONDON, E.C.; AND BEAUFORT IRONWORKS, BRISTOL.

LAMBERT BROTHERS, Alpha Tube and Fitting Works, WALSALL.

Boiler Tubes, Hydraulic Tubes, Sluice Valves, Hydrants, Stop and Draw-off Cocks, Boiler Mountings, Safety Valves, Pumps, &c.

British and Foreign Safety Fuse Company,

REDRUTH, CORNWALL,

SAFETY FUSE,

FOR MINING AND QUARRYING PURPOSES.

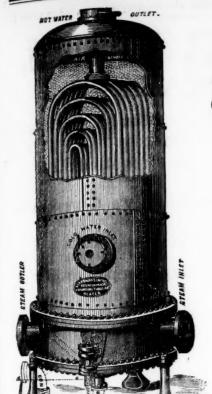
PRICES ON APPLICATION.



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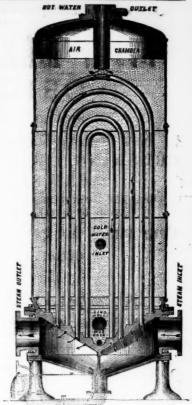


JOSEPH WRIGHT AND CO.

(LIMITED).

NEPTUNE FORGE ENGINE AND BOILER WORKS,

TIPTON.



Having purchased the Engineering Business lately carried on by R. BERRYMAN AND CO., at 23, Congreve-street, Birmingham, and 28, Wilson-street, Finsbury-square, London, have removed the whole to their Works at TIPTON, to which place ALL COMMUNICATIONS SHOULD IN FUTURE BE ADDRESSED, and where the BERRYMAN HEATER can be seen at work, and in every stage

of manufacture.

Being the SOLE MAKERS and PATENTEES of these CELEBRATED COAL SAVERS and EXHAUST STEAM UTILISERS, and having remodelled and greatly improved them, adding largely to their HEATING SURFACE and WATER CAPACITY, J. W. and Co. have put down a special plant, which includes an entire new set of improved patterns, enabling them to offer these FEED WATER HEATERS to the public at

GREATLY REDUCED PRICES.

This arrangement of BRASS TUBES of a great length giving an enormous HEATING SURFACE makes this HEATER not only the MOST POWERFUL ever invented, but its first cost PER FOOT OF HEATING SURFACE IS LESS THAN HALF THAT OF ANY OTHER. It will condense the whole of the Exhaust Steam from the Engine if required, and entirely does away with the NOISE

FOOT OF HEATING SURFACE IS LESS THAN HALF THAT OF ANY OTHER. It will condense the whole of the Exhaust Steam from the Engine if required, and entirely does away with the NOISE and BACK PRESSURE from exhaust pipes.

ALL THE TUBES ARE OF SPECIALLY PREPARED SOLID DRAWN BRASS AND COPPER; both ends are expanded into the bored holes of the same Tube Plate, METAL to METAL, and every tube is free to expand and contract independent of each other. Leakage is impossible, as, when the tubes are once fixed, nothing short of cutting out will remove them. No scurf adheres to the tubes because of the difference of expansion between scurf and BRASS. The inside of the Heater can be washed out by means of the mud cock and hand hole whilst at work.

Only one pump or injector is required, and as the Heater is placed between the pump and the boiler, the water is forced, COLD, into it, and passes out at the top hor into the boiler direct. Where the water being heated to BOLLING POINT UNDER PRESSURE in the Heater, a saving of from 20 per cent. to 25 per cent. in fuel is effected; the disastrous results of grease in boilers are also avoided, the sewage and other loose matter in the water being deposited in the Heater, the acids are liberated there instead of in the boiler.

Every part can be lined with BRASS, COPPER, or LEAD, as may be required in special cases for heating water or any kind of liquor in large quantities for CHEMICAL WORKS. BATHS, WASH-HOUSES, AQUARIA, GREENHOUSES, BREWERIES, WOOL WASHING, DYE WORKS, TANNERIES, &c., &c.; they will also HEAT AIR FOR CUPOLAS AND BLAST FURNACES, and are now at work as INTERHIEATERS for compound engines with direct steam from the boiler with a further saving of 15 per cent.

The New Price List, with detail information, is now ready, and will be sent on application, together with an fillustrated Catalogue, with references and testimonials from Firms using FOUR HUNDRED AND THIRTY-THREE of these Heaters.

DRED AND THIRTY-THREE of these Heaters.

COLEBROOK'S PATENT STEAM PUMPS, FOR HIGH OR LOW LIFTS AND GENERAL PURPOSES.

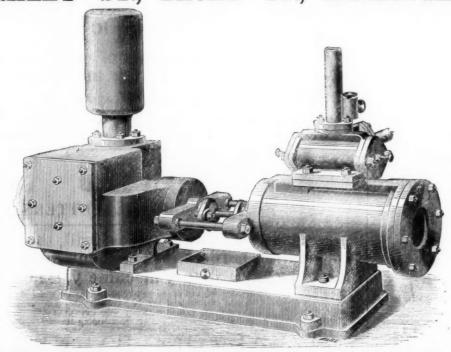
MOUNTAIN. MAY BERKLEY ST., BROAD ST., BIRMINGHAM.

The accompanying Engraving represents a Steam Pump, suitable for general purposes; it possesses the following advantages over any other Steam Pump yet before the public :-

1st.-No tappets, eccentrics, levers, or other mechanical appliances are used to actuate the steam slide valve, but this office is performed by the exhaust steam.

2nd.—The only working parts in the steam cylinder are the piston and slide valve, and as there are no working parts in either the piston or cylinder covers, the full length of stroke is obtained.

3rd.—The slide valve is so easy of access that it can be examined, cleaned, and replaced in a few minutes, and it is impossible to make any error in replacing it



after examination, because it is immaterial which way it is inserted in the valve-box, whether one way or the other upwards, or whether end for end.

The Pump Valves are Colebrook's Patent, and are made in one piece. They are eit er of canvas, leather, india rubber, or other material, to suit the nature of the liquid to be pumped, and can be replaced in a very short time by any ordinary workman.

These Pumps are suitable for hot or cold water, hot or cold wort, sewage, ammoniacal liquor, tar, &c., and are adapted for use in breweries, chemical works, collieries, paper mills, dye-works, brick-yards, and for almost any other purpose.

SIZES	AND	PRICES	OF	COLEBROOK'S	PATENT	STEAM	PUMPS.
		TITOTO	OT.	COLLEGER	A A A A A A A A A A A A A A A A A A A	CO TO TOTAL TANK	~ ~ ~ ~ ~

Diameter of Steam CylinderInches	11	3	3	3	3	4	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	8
Diameter of Pump CylinderInches	1	11	2	21	3	2	21/2	3	4	3	4	5	3	4	5	6	3	4	5	6	7	4
Length of StrokeInches	6	12	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Price	£12	£16	£17	£18	£19	£19	£20	£22	£25	£23	£28	£32	£26	£33	£36	£41	£30	£38	£41	£45	£52	£10
Diameter of Steam Cylinder	8	8	8	8	9	9	9	9	9	10	10	10	10	10	10	12	12	12	12	12	12	
Diameter of Pump Cylinder	5	6	7	8	5	6	7	8	9	5	6	7	8	9	10	6	7	8	9	10	12	***
Length of Stroke	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	
Price	£45	£50	£56	£65	£50	£55	£60	£70	£81	£62	£68	£70	£80	£95	£100	#80	£85	£90	£100	£115	£135	

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H. R. M. will exhibit in full operation at the Royal Agricultural Society of England Show, at Bristol, July 10th to 15th, one of his New Patent Stonebreakers, with screening apparatus, and of travel; also fitted with his new patent toggle bearing and drawback motions, and reversible planed back cubing jaws in sections.

R. MARSDEN, PATENTEE AND ONLY MAKER BLAKE MACHINES, ORE GRUSHERS AND STONE BREAKERS,

WITH THE

New Patent Reversible CRUSHING OR CUBING JAWS,

WHICH ARE CONSTRUCTED OF A PECULIAR MIXTURE OF METAL, WEARING

Four times longer than any other.

60 GOLD AND SILVER MEDALS.

2000 NOW IN OVER USE.

For Crushing to any degree of Fineness, or Breaking to a required size.

Her Majesty's Government USE THESE MACHINES

> EXCLUSIVELY, ALSO ALL THE GREAT

Mining Companies of the World.

H. R. M. has long observed the want of cheaper machines.

STONE AND ORE CRUSHERS, And has at length, by means of improved appliances for the production thereof, been enabled to reduce the prices, yet keep up at the same time the well-known strength of construction. Reduced prices

on application. FIFTY per Cent., and upwards, saved by using these Machines.

TESTIMONIAL FROM MESSRS. JOHN TAYLOR AND SONS.

6, Queen-street-place, May 10, 1877. DEAR SIR,—We have adopted your Stone Breakers at many of the mines under our management, and are pleased to be able to state that they have in all cases given the greatest satisfaction.

We are, yours faithfully,

JOHN TAYLOR AND SONS.

DEAR SIR,—I have broken over 40,000 tons of very hard LIMESTONE into ROAD METAL, for the Newport and other Road Trusts, in your PATENT STONE BREAKER, AND ALL WITH ONE PAIR OF JAWS, which are STILL IN USE. I do not think at all, but am quite sure yours are the only Machines which fully perform the work you set them out to do, and there are none in the Show can at all compare with them.

H. R. Marsden, Esq.

WILLIAM PRICE, Contractor, Gold Cliff, Monmouth.

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TO COLLIERY AND MINE OWNERS. PATENT "TRAMS," HUDSON'S STEEL CORVES

Patented July, 1875, and January, 1877.

Entire new principle, saving three-quarters to 2 cwts. "dead" weight per corve. Will hold 2 to 3 cwts. more coal than the ordinary kind, without increasing the outside dimensions. Adopted by— Me-srs. Baring, Gould, & Atkinson, Diamond Fields, South |

Messrs. Thompson, Wise, & Co., Burry Port, South Wales.
Messrs. Dymonds' Liversedge Coal Company, near Leeds.
Messrs. W. Acknoyd and Bros., Morley, near Leeds.
Messrs. Unayton and Springert, Farnley, near Leeds.
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HARDWICK COLLIERY Co., Clay Cross, near Chesterfield.
WEST YORKSHIRE IRON AND COAL CO. (Limited), Tingley, near Leeds. Messrs. Thompson, Wise, & Co., Burry Port, South Wales.
Messrs. Dynonds' Liversedge Coal Company, near Leeds.
Messrs. Was Acknoyd and Bros., Morley, near Leeds.
Messrs. Vas Wormald and Sons, Rawdon, near Leeds.
Messrs. Vas Wormald and Sons, Rawdon, near Leeds.
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Hardwick Colliery Co., Clay Cross, near Chest-rfield.
West Yorkshire Iron and Coal Co. (Limited), Tingley, near Leeds.
West Yorkshire Iron and Sons, Coatbridge, near Glasgow.
West Yorkshire Iron and Son, Coatbridge, near Glasgow.
Bettisfield Colliery Company, near Bath.
Howden Cluight Colliery Co., Atkinson, Diamond Fields, South Hardwick Colliery Co., Clay Cross, near Chest-rfield.
West Yorkshire Iron and Son, Coatbridge, near Glasgow.
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The Barrow Rock Drill

Are NOW PREPARED to SUPPLY their DRILLS, the ONLY ONES that have been SUCCESSFULLY WORKED in the MINES of CORNWALL. At DOLCOATH MINE, in the HARDEST known ROCK, a SINGLE MACHINE has, since its introduction in July, 1876, driven MORE THAN THREE TIMES the SPEED of HAND LABOUR, and at TWENTY PER CENT. LESS COST PER FATHOM.

In ordinary ends two machines may be worked together, and at a proportionately increased speed. They are strong, light, and simple, easily worked, and adapted for ends and stopes, and the sinking of winzes and shafts.

The company are also prepared to SUPPLY COMPRESSORS, and all necessary appliances for working the said Drills. Apply to

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IMPROVED STEEL WIRE E ROPES.

MANUFACTURERS OF IMPROVED STEEL WIRE FOR ROPES FOR COLLIERIES,

RAILWAY INCLINES, PLOUGHS, HAWSERS, &c. SOLE MANUFACTURERS of the HOMOGENEOUS WIRE for the ATLANTIC CABLES of 1865 and 1866.

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The IRON AND COAL TRADES' REVIEW is extensively circulated amongst the Iron Producers, Manufacturers, and Consumers, Coalowners, &c., in all the iron and coal districts. It is, therefore, one of the leading organs for advertising every description of Iron Manufactures, Machinery, New Inventions, and all matter relating to the Iron, Coal, Hardware, Engineering, and Metal Trades in general.

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MINE AND QUARRY STANDS, STEEL DRILLS, SPECIALLY PREPARED INDIARUBBER HOSE, TESTED

Air-Compressing Machinery, Simple, strong, and giving most excellent results, and

ELECTRIC BLASTING APPARATUS. Full particulars of rapid and economical work effected

by this machinery, on application.

CONTRACTS TAKEN, OR SPECIAL TERMS FOR HIRE.

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BY ROYAL LETTERS PATENT.

This justly-celebrated Rock Drill, the only one invented that will work in the hardest rock without more than the usual repairs required by any ordinary machinery, is now offered to the public.

It has been most successfully worked in the well-known Hematite Mines of Lancashire and Cumberland. Will drive 50 to 60 ft. in hard rock without change of drill, and can be worked by any miner, and kept in repair by any blacksmith. It is the most simple rock drill ever invented, and cannot with fair usage get out of order. Plans, Estimates, including Compressors, and all other Mining Machinery, supplied on application to the sole makers,—

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MINING ENGINEERS. Canal Head Foundry and Engineering Works, Ulverston.

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(WORKS AND OFFICES ADJOINING CRADLEY STATION),

Manufacturers of

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Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPADES FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS,

RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &c., &c. Crab Winenes, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions. STOURBRIDGE FIRE BRICKS AND CLAY.

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